INDUSTRIAL EQUIPMENT NEWS

MARCH - 1952
VOL. 20 • NO. 3

The Original IEN FOUNDED 1933

INDUSTRY'S MOST COMPLETE PRODUCT INFORMATION SERVICE

What's New IN EQUIPMENT, PARTS, MATERIALS

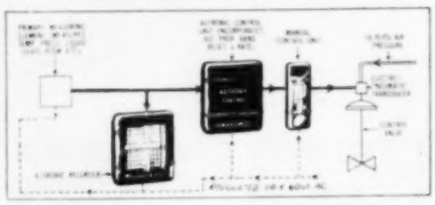
APPLIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

Product Information for specifiers and buyers in all industries

BREVITY—Identify by IEN-2190 if you write the maker

CONTROL . . Electronic equipment for temperature, pressure, flow

Source: SWARTWOUT CO.
18521 Euclid Ave., Cleveland 12, Ohio



Illustrated detail in Data Release A-703

Autronic trade names new electronic equipment developed by the company to establish lag-free control over process variables. The equipment consists in complete form of a primary-element transmitter, a recorder or indicator, electronic and manual control assemblies, and a power relay to operate a standard pneumatic valve. Power input is from a 110-volt 60-cycle ac. line.

Temperature is measured in the primary-element transmitter by a resistance thermometer connected into a fixed bridge circuit. Output range is 0 to 0.5-volt ac. Temperatures, minimum at 300 deg. F. and maximum at 1,200 deg. F., can be measured within ½ per cent.

Pressure and pressure differential, or the equivalent of liquid level and flow, are measured by a diaphragm or bellows element operating the core of a differential transformer. Output range is also 0 to 0.5-volt ac. on accuracy within ½ per cent. Both types of transmitter are compensated for ambient temperature change.

The ac. signal of the transmitter is received simultaneously by the controller and the recorder or indicator. It is converted into a trace on a motor-driven chart or to a point position on a scale. It is compared in the controller to the ac. reference signal from the calibrated set-point adjustment. The difference which represents the error or deviation of the measured variable from the desired value issues as a dc. output in a range between 4 and 8 ma. to actuate the power relay. Manual control can be made active or inactive independent of the recorder and controller.

The power relay converts the dc. signal from the controller to a proportional magnetic force acting on a spring-pivoted balance. Deflection in the balance operates a pneumatic pilot, the output pressure of which is balanced against the magnetic force. This pilot in turn controls flow of air pressure in a range between 3 and 15 lb. to the diaphragm of the pneumatic valve that installs in the process-regulating line.

BREVITY—Identify by IEN-2191 if you write the maker

CUTTING . . Air-electric torch for use in metal cutting and scarfing

Source: ARCAIR CO.
2612-16 Burwell St., Dept. I, Bremerton, Wash.

About $100 complete

Carbon electrode, or one made of coated metal, is secured in this new holder-type torch which connects to the output circuit of an arc-welding machine and to a source for compressed air. An arc is drawn as in welding and simultaneously compressed air issues from a nozzle to blow the molten metal away. The torch produces a smooth cut at steady speed.

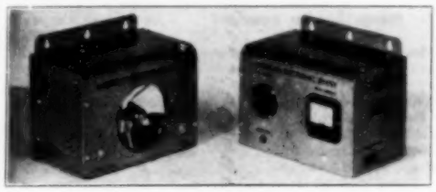
Applications include removal of defects from castings or forgings, cleaning weld roots, removing welds, cutting grooves, beveling steel sheets. Any metal can be worked on with appropriate choice of the electrode.

GIVE!

BREVITY—Identify by IEN-2192 if you write the maker

SIGNALING . . Photoelectric equipment signals presence of smoke in the air

Source: AMERICAN ENCAUSTIC TILING CO.
901 Kenilworth St., Lansdale, Pa.



Quickly spots a starting fire

A light-beam projector and a photoelectric receiver mount on opposite sides of an area to be guarded against fire by this new equipment. It signals the presence of smoke before a fire gts under full headway. A unit assembly will protect an area measuring 30 by 150 feet. Multiple units are employed in larger areas with individual connection to an annunciator that can be centrally located. The annunciator also can be set up to operate external alarms calling attention to it at distant points.

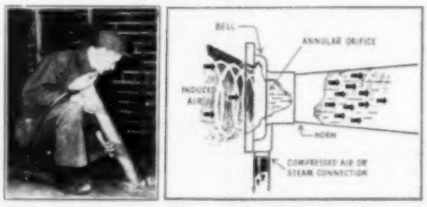
A puff of cigarette smoke in the area covered will set off the alarm. Operation is on 110-volt 60-cycle ac. Two circuits are built in so an alarm is set up on the annunciator panel in the event of sabotage or accidental damage and also in the event of outside power failure when a supervisory circuit cuts in to set up the alarm. A voltage stabilizer makes required correction for variation in current input.

Application is intended primarily in areas not protected by sprinklers and in sprinkler-protected areas where water damage can be a serious problem.

BREVITY—Identify by IEN-2193 if you write the maker

VENTILATING . . Venturi nozzle delivers fresh air or exhausts fumes

Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.



Illustrated details in Bulletin DP-5

Lamb Air-Mover is a new venturi nozzle for use with compressed air or steam as a blower or exhauster. The compressed air connects at the side in the throat of the venturi. It passes through an annular orifice setting up suction in the throat to draw in about ten times its own volume through the intake end. It mixes with this induced air and issues from the opposite end.

Three sizes are 3, 6 and 10 inches. Overall lengths are about 31, 48 and 45 inches. Base diameter is 7½, 14 1/2 and 20 inches. Weight is 6½, 31 and 47 pounds. Air-handling capacity is 800, 3,150 and 5,160 cfm. with compressed air supply at 90, 70 and 80 lb. respectively for the three sizes.

BREVITY—Identify by IEN-2194 if you write the maker

RECTIFYING . . Germanium design for application in electronic circuits

Source: GENERAL ELECTRIC CO.
1949 Electronics Park, Syracuse 1, N. Y.

Germanium is not a critical metal

Output rating is 350 ma. dc. in a 40-deg. C. ambient temperature for this new Type G-10 germanium rectifier. Peak inverse rates 400 volts. Operating efficiency is to 50 per cent. Forward resistance at rated current is about 3 ohms. Back resistance is approximately 1 megohm at minus 350 volts. Overall dimensions are 3¼ in. in maximum height, 2⅛ in. in width, ⅞ in. in thickness. The assembly is gasket sealed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

PRODUCT INFORMATION IS MORE VITAL NOW THAN EVER

WHAT DO YOU NEED?

READER SERVICE FORM . . . Look between pages 16 and 17 or 108 and 109 and "lift" the form you find there. Keep it beside you as you look through the pages. Note on it the numbers of the products on which you want further information. Then either mail it to us, so we can forward your requests to the manufacturers, or use it as your guide to write direct.

From a Company President

"Yours is an excellent publication. It is used by our shop, by our designers and by our purchasing agent."

Departments

READER SERVICE FORM — Pages 16-17 and 108-109
To assist you in securing the information you want

SUBJECT INDEX — Pages 121-123
With our four-step suggestion on how to use it

PRODUCT INFORMATION SERVICE — Page 4
How IEN is set up to help you find what you want

NEWS NOTES — Page 32
Reviews of unusually helpful literature and services

NEW LITERATURE — Page 80
Condensed reviews of current manufacturers' catalogs

IDEAS FOR YOU — Page 60
Items of current news interest to keep you posted

"I WISH I HAD" — Page 120
Requests we cannot answer, printed in the hope you can

Our Selections in This Issue

COUNTING — Page 19
Strip chart recorder for company's electronic counters

FORMING — Page 73
Hydraulic press and spot welder for wire terminals

INDEXING — Page 67
Gear operated table carries work for series of operations

INSULATING — Page 19
Mica-glass sheet rates 600 volts per mil of thickness

LUBRICATING — Page 10
Solid wax coolant for metal cutting, grinding, sanding

MACHINING — Page 16
Metal disintegrator cuts intricate shapes in hard metals

PLASTIC — Page 3
Polyester resins retain strength to 500 degrees F.

PROTECTING — Page 54
Valve covers to enclose operating mechanism

PUMP — Page 94
Fluid piston equipment for fluids difficult to handle

PUNCHING — Page 115
Portable hydraulic head, to 12½ ton, also rivets, extrudes

STEELS — Page 38
Handbook on selection and use of tool steels

WEIGHING — Page 33
Electronic scale sorts and delivers objects by weight

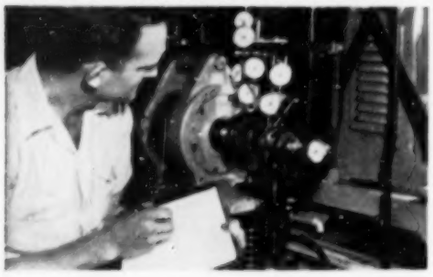
W. E. Smith, Editor & V. Pres.
F. Morr. Smith, V. Pres. in Charge

THOMAS PUBLISHING COMPANY
461 - 8th Ave., New York 1, N. Y.— LOngacre3-1546

HELP TO CONSERVE PAPER
MAKE THIS ISSUE DO DOUBLE WORK
FILL IN AND SEND ALONG TO OTHERS
INTERESTED IN PRODUCT INFORMATION

- ☐ *Plant Operating Mr.* _____
- ☐ *Production Mr.* _____
- ☐ *Engineering Mr.* _____
- ☐ *Product Design Mr.* _____
- ☐ *Purchasing Mr.* _____
- ☐ _____

BREVITY—Identify by IEN - 2195 if you write the maker



To help you get the answers:

What is the determining factor of seal-bearing life?

How operating conditions contribute to metal fatigue?

Which has the most effect on grease life—speed or load?

Lubrication selection.

a monograph, "Grease Lubrication of Ball Bearings," by New Departure's Manager of Research, Development and Design, will be mailed upon request.

NEW DEPARTURE
BALL BEARINGS

NEW DEPARTURE · Division of General Motors · Bristol, Connecticut

BREVITY—Identify by IEN - 2196 if you write the maker

FREE! 32-PAGE HANDBOOK
SHOWS HOW TO STOP CONDENSATION DRIP

NoDrip

Stops Drip from:
✓ Cold water pipes
✓ Water filter tanks
✓ Metal or concrete ceilings
✓ Basement walls
✓ Condensers
✓ Air Ducts
✓ Blower pipes
✓ Dust Collectors
✓ Crystallizers

Learn how you can control condensation drip from pipes, tanks, ceilings—from metal, wood or masonry surfaces.

LOW COST — EASY TO APPLY

Anyone can apply NoDrip, the triple-duty insulation type coating. Brush it on or spray it on. Use it on pipes or equipment where temperature differences cause condensation. Save money by preventing rust and corrosion. Deaden sound, decrease vibration on metal ducts or pipes.

HANDBOOK SHOWS HOW

Send today for your copy of the NoDrip HANDBOOK which tells what this plastic-cork material can do for you. It's the modern solution to condensation drip problems.

Send for your Free Handbook Now!

J. W. MORTELL CO.
Technical Coatings Since 1895
Dept. IE, Kankakee, Ill.

BREVITY—Identify by IEN - 2197 if you write the maker

"WHAT? YOU MEAN I CAN GET SPECIAL METAL PATTERNS TAILORMADE FOR OUR PRODUCT?"

Yes.. with Rigidized Metals

PATTERN 5-WL SHOWN FULL SIZE

The same skilled metal "imagineering" service team that has designed patterns for all kinds of products in every industry is now available to you. The Rigidized Metals Corporation, sole manufacturers of three-dimensional, design-strengthened, textured RIGIDIZED METALS, not only offers you a complete choice of ready-made patterns but will work with you to produce special patterns tailormade to meet your individual requirements. If you wish a metal that has light weight, high strength, damage resistance and metal-conservation features — PLUS versatile fabrication, don't fail to get the complete story today.

WRITE for detailed information on RIGIDIZED METALS Special Pattern Service—and your copy of the Conservation Handbook — on your company letterhead—now.

U.S. & Foreign Patents

Rigidized Metals Corporation

6661 OHIO STREET BUFFALO 3, N. Y.

Offices in Principal Cities in the U. S. and Canada

CABLE ADDRESS: "RIGIDIZED"

BREVITY—Identify by IEN - 2198 if you write the maker

DRIVE . . Overload release arm for shaft mounted speed reducer

Source: DODGE MFG. CORP.
500 S. William St., Mishawaka, Ind.

Release force is adjustable

Overload in a driven machine equipped with the company's Torque-Arm speed reducer can do no damage when the reducer is equipped with this new Tri-Matic release. Overload action, tending to rotate the reducer, causes axial movement of the torque-arm shaft against retaining action of a spring-backed ball. This operates a push-button switch on the arm near its pivot point.

Installation can be made for action in either tension or compression to open the control circuit to the driving motor. Rotating movement of the reducer at the same time establishes slack in the belt connecting the motor and the drive.

Resetting is by pulling or pushing the reducer back to normal operation position. This returns the ball to its engaging groove and the switch to closed circuit for the motor and open circuit for signaling equipment that can be included in a speed-reducer drive installation.

BREVITY—Identify by IEN - 2199 if you write the maker

ELEVATOR . . Portable hand unit for work to heat and quench in tank

Source: A. D. ALPINE INC.
11835-39 Teale St., Dept. 185, Culver City, Calif.

Forks lower into tank

Fork Lift Loader is a new hand-operated caster-mounted elevator with a hand-hydraulic hoist and forks to carry a load tray. The unit takes a load of work pieces that are to be heat treated and quenched. It lifts and inserts them into a furnace. It removes them from the furnace and lowers them into a quench tank. Finally it lifts them from the tank for unloading.

Vertical movement is by a hand-operated hydraulic pump located on the operator's side of a shield which also protects him from the heat of the furnace. The operator grasps the two sides of the assembly to move it from one position to the next. The extended base reaches in under the furnace and under the quench tank to position the work.

Overall dimensions are 40 by 20 by 60 inches. Lift height is 20 inches. Load capacity is 300 pounds. Weight is 200 pounds. The company is prepared to supply this particular unit or others of specified dimensions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2200 if you write the maker

FOR EASY SHIFTING OF HEAVY EQUIPMENT

DUFF-NORTON
Traversing Bases

Heavy machinery and equipment can be shifted with ease by means of Duff-Norton Traversing Bases. Used with or without screw and ratchet type jacks, loads can be moved horizontally up to 26". You should have a set of these bases in your plant. Investigate the savings they make possible.

HOLDS AND MOVES LOADS UP TO 100 TONS

IN EITHER DIRECTION

Write today for Bulletin AD-4G.

THE DUFF-NORTON MANUFACTURING CO.
Main Plant and General Offices, PITTSBURGH 30, PA.—Canadian Plant: TORONTO 6, ONT.
"The House that Jacks Built"

BREVITY—Identify by IEN - 2201 if you write the maker

ANNOUNCING
THE NEW CLAUSING
18" Drill Press

A HEAVY DUTY GENERAL PURPOSE DRILL FOR PRODUCTION, TOOL ROOM, MAINTENANCE & SERVICE SHOPS

The new Clausing 18" is a rugged heavy-duty precision drill press — ideal for continuous production or precise tool room work. Has four ball bearing drive, with both races in lower double-row bearing absorbing drill thrust; 6½" spindle travel for more efficient use of production chucks; Vernier depth control stop; positioning mechanism moves both head and table. Ground base. Send for catalog.

★ Drills to Center of 18¼" Circle. ★ Drills ¾" in Steel, 1" in Cast Iron. ★ 6½" Spindle travel. ★ 63/64" Spindle with No. 3 Morse Taper. ★ 39" Capacity Spindle to Table. ★ 13" x 18" Production Oil Table or 12" x 14" Tilting Table.

Atlas CLAUSING

CLAUSING DIVISION
ATLAS PRESS COMPANY
391 N. PITCHER ST., KALAMAZOO, MICH.

BREVITY—Identify by IEN - 2202 if you write the maker

TRIGGER-QUICK

For split-second action . . . pull the trigger on a Kidde CO_2 portable fire extinguisher. Flame-smothering carbon dioxide blankets the fire . . . kills it instantly.

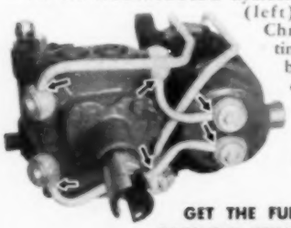
Walter Kidde & Company, Inc.
336 Main St., Belleville 9, N. J.

Kidde

BREVITY—Identify by IEN - 2203 if you write the maker

It's an old custom!
BRAZING FITTINGS TO TUBING WITH EASY-FLO

And the reason is—this low-temperature silver brazing alloy just naturally and consistently makes the *strong, permanently leak-tight joints* this work demands—and does it fast and at surprisingly low-cost. For example — on the HYDRAGUIDE hydraulic steering gear (left) now used on Chrysler cars, fittings (arrows) are brazed to copper-coated Bundy tubing with rings of 3/64" EASY-FLO35 wire preplaced.



GET THE FULL EASY-FLO STORY IN BULLETIN 20. Write for a copy.

HANDY & HARMAN 82 Fulton St. New York 38, N. Y.

BREVITY—Identify by IEN-2204 if you write the maker

Solve "small parts" assembly problems

• Assemble • Press
• Rivet • Stake
• Punch • Mark . . .

with ½ ton or 1 ton Han-D-Press the new Hannifin air-operated bench press.

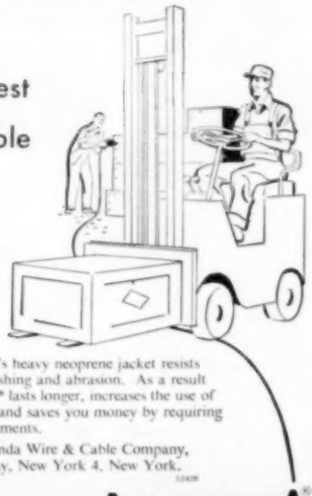
Write HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Illinois

BREVITY—Identify by IEN-2205 if you write the maker

SECURITYFLEX

the toughest portable cord



Securityflex's heavy neoprene jacket resists water, oil, crushing and abrasion. As a result —Securityflex* lasts longer, increases the use of fine tools and saves you money by requiring fewer replacements.

Anaconda Wire & Cable Company, 25 Broadway, New York 4, New York.

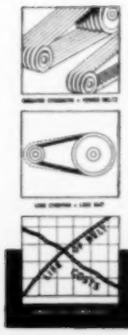
the right cable for the job ANACONDA® WIRE AND CABLE

*Trademark

BREVITY—Identify by IEN-2206 if you write the maker

BROWNING STEEL CABLE GRIPBELTS

MORE Strength • LESS Stretch



Browning Steel Cable Gripbelts are much stronger than ordinary belts. They will safely carry heavier loads with fewer belts. They will stretch less and give longer life without loss of power and efficiency.

Write FOR LIST PRICE SHEET V-163-A

BROWNING MANUFACTURING CO. INCORPORATED MAYSVILLE, KENTUCKY

BREVITY—Identify by IEN-2207 if you write the maker

WELDING . . DC. arc machine particularly for inert arc application

Source: AIR REDUCTION SALES CO. 1656 Lincoln Bldg., New York 17, N. Y.

Can be wheel mounted

Model GA is a new dc. machine with volt-ampere characteristics that suit it particularly for straight-polarity operation in connection with the company's inert-arc Heliwelding equipment. Commutation is excellent at any setting. Split-pole, cross-field design and self-excitation provide good operation. Each current range overlaps into the next one for an overall range between 30 and 250 amp. on the 200-amp. machine, 20 to 185 amp. on the 150-amp. unit.

BREVITY—Identify by IEN-2208 if you write the maker

PLASTIC . . Polyester resins retain strength to 500 degrees F.

Source: AMERICAN CYANAMID CO. 30 Rockefeller Plaza, Room 5926, New York 20, N. Y.

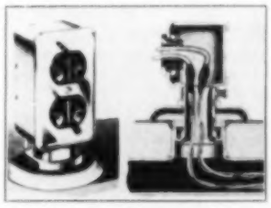
Available now in limited quantity

General-purpose Type PDL-7-669, fire resistant Type PDL-7-680 and crystalline Type PDL-7-679 to impregnate mat or cloth are three new plastic resins based on the company's recently developed triallyl cyanurate. The three develop flexural strength of 30,000 to 35,000 lb. per sq. in. during exposure to temperatures of 500 degrees. They retain their strength for 24 hr. or more at this temperature. Typical applications include heat-resistant aircraft parts, oven ware for bakers and the home.

BREVITY—Identify by IEN-2209 if you write the maker

ELECTRIC DUCT . . Threaded outlet carries wiring to a service fitting

Source: NATIONAL ELECTRIC PRODUCTS CORP. 1301 Chamber of Commerce Bldg., Pittsburgh 19, Pa.



Made of galvanized steel

Wire space is increased over that provided by the design previously described IEN-925-48. Provision is made for exterior locking in this new service fitting. It applies in the company's underfloor Nepcoduct to carry service wiring. Vertical and horizontal designs are available, each with standard devices for light, power or office-appliance wiring. A bushed outlet for telephone lines is included.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN-2210 if you write the maker

SAFETY EQUIPMENT FOR ALL INDUSTRIES

"FLUD-LITE" MAGNIFIER

Fluorescent Lighting for INSPECTORS ASSEMBLY WORKERS TOOLMAKERS MACHINISTS And Others Engaged In Close Work

Floodlights the work area with scientifically focused, shadow-free fluorescent light, magnifying the work through a high quality 5" diameter lens with a focal distance of 13". Magnification two to one. Also available with auxiliary lens providing four to one magnification.

WRITE FOR BULLETIN F-32

IPCO Safety Equipment for all Industries

INDUSTRIAL PRODUCTS COMPANY

2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

BREVITY—Identify by IEN-2211 if you write the maker

LUBRICATION ECONOMY

"LUBRIPLATE LUBRICANTS Satisfy our Requirements"

Stephens-Adamson Mfg. Co., conveyor manufacturers of Aurora, Ill. write us . . . "*We do not know of a single case of bearing trouble through faulty lubrication where LUBRIPLATE has been used!*"

1. LUBRIPLATE reduces friction and wear
2. LUBRIPLATE prevents rust and corrosion
3. LUBRIPLATE is economical to use

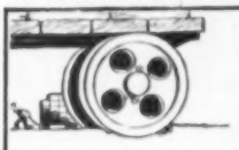
Write today for case histories of savings made through the use of LUBRIPLATE in your industry.

LUBRIPLATE DIVISION
Fike Brothers Refining Co.
Newark 5, N.J.—Toledo 5, Ohio

The Different LUBRICANT!

DEALERS EVERYWHERE, consult your Classified Telephone Book

BREVITY—Identify by IEN-2212 if you write the maker



IN A Rut?

DON'T LET WORN FLOORS SLOW UP PRODUCTION!

A *real* heavy-duty floor must be concrete—*good* concrete. 'Incor' 24-Hour Cement assures stronger, longer-lasting, heavy-duty concrete floors—by curing THOROUGHLY in 24 hours, instead of a week or more.

Don't let worn-out floors slow production—rebuild floors over a week-end with 'Incor'*—no plant tie-up—no time-loss!

Write for booklet, "Heavy-Duty Floors"—address Lone Star Cement Corporation, 100 Park Avenue, New York 17.

*Reg. U.S. Pat. Off

LONE STAR CEMENT CORPORATION

Offices: Abilene, Tex. • Albany, N. Y. • Bethlehem, Pa. • Birmingham • Boston Chicago • Dallas • Houston • Indianapolis • Kansas City, Mo. • New Orleans New York • Norfolk • Philadelphia • Richmond • St. Louis • Washington, D. C.

BREVITY—Identify by IEN-2213 if you write the maker

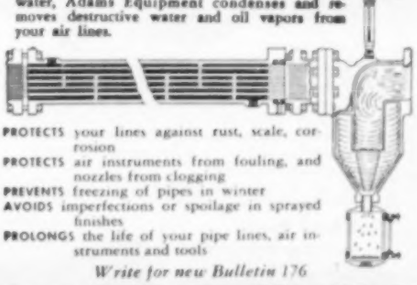
You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator

with ADAMS Aftercooler and Cyclone Separator

• Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R. P. ADAMS CO., INC. 319 S. PARK DRIVE BUFFALO 17, N. Y.

BREVITY—identify by IEN-2214 if you write the maker

Every designer must be something of a metallurgist

Here are 72 pages packed with information of vital significance to engineers faced with the design, selection and treatment of steel components to give a specified service at minimum cost.

Besides dealing with scientific design, the book gives important metallurgical data, all compiled from the designer's viewpoint. Free on request.

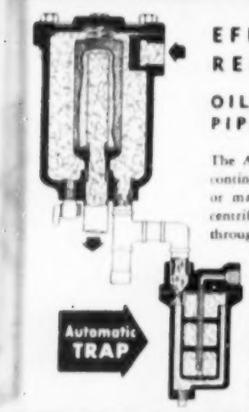
This booklet sent to you FREE

Climax Molybdenum Company
500 Fifth Avenue · New York City

F28

BREVITY—identify by IEN-2215 if you write the maker

Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES

OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data — Bulletin 176.

R. P. ADAMS CO., INC.
219 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

BREVITY—identify by IEN-2216 if you write the maker

Link Belt CAR SPOTTER. releases manpower for other jobs

Get faster car spotting

Reduce switching and demurrage time to a minimum. One man with two or three turns of rope around the motor-driven capstan will handle up to six loaded railroad cars. Available with 5 or 10 hp, integral or separate motors, stationary or portable.

Link-Belt offers a complete line of car spotters . . . also special-use in drum type puller applications.

WRITE TODAY

For 16 Page Bulletin 1992-A

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa). Offices, Factory Branch Stores and Distributors in Principal cities.

INDUSTRIAL EQUIPMENT NEWS

CCA · IEN · NBF

Publisher	Thomas Publishing Company
Vice-President in Charge	F. Morse Smith
Editor and Vice-President	W. E. Irish
Managing Editor	J. W. Moss
Circulation and Reader Service Mgr.	A. J. Granick
Production Manager	R. B. Cohen

Editorial Assistants
M. L. Welsh; A. J. Willis

Circulation and Reader Service Assistants
B. Goldstein; V. Puzzio

Business Department Assistants
H. Benjamin; R. Irish; B. Sullivan

These are our local offices:		*Telephone*
Atlanta (6)	3 Villa Dr. N. E.	VErnon 2969
Boston (8)	50 Beacon Street	LAfayette 3-4688
Chicago (4)	20 West Jackson Blvd.	Harrison 7-3730
Cleveland (14)	3145 Superior Ave.	Cherry 1-6582
Detroit (30)	115 Handy Rd. (G. P.)	TUxedo 1-1161
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Philadelphia	P.O. Box 96, Upper Darby	GRanite 2-6500
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Toronto (1)	137 Wellington St., W.	ELgin 1421-2-3

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461 Eighth Avenue, New York 1, N. Y.

What's New · EQUIPMENT · PARTS · MATERIALS

Vol. 20 MARCH, 1952 No. 3

Product Information Service

More letters than ever, hundreds more, came back from you this year in answer to our year-end request for your comment on IEN's product information service. We are truly grateful to you.

We want to summarize a bit, as we have done before, by way of reply and suggestion to those comments in our mutual interests. Particularly we are thinking about product newness, inquiry handling and our setup for special inquiries.

The editorial content is based upon news of products and services that are new within the past few months, or improved in that time, and that actually are in production and available to your order. This editorial content occupies the front page and the upper two-thirds of the center column in the succeeding pages. Each item is verified and is published once only without charge to the manufacturer. If you are looking particularly for what's new in a given month you can concentrate on that portion on your first trip through the pages.

Editorial material in the columns containing new literature and news notes is based also on new information that has not appeared previously in IEN. It is published once only until added information justifies a new announcement. The literature is arranged alphabetically to help you pick quickly those pieces needed to keep your files up to date. The news notes have been selected to add to your fund of useful information.

We hope you will tell us about any editorial item that you know to be other than exactly as reported in any IEN description. We will follow it up immediately.

The advertising content occupies the side columns and the bottom third of the center columns. It is made up of advertisements on available products and services, not necessarily new. Each manufacturer purchases the space he uses. Many among them are following suggestions we have made to present their stories simply and to the point, providing the basic data on which you can judge probable value of the product.

Your inquiries are forwarded to the manufacturers as we receive them. They will be marked "literature only" or "send salesman" on those you so indicate. We do suggest that you address the manufacturers direct when you have specific questions you want answered.

Here also we want you to let us know of any cases in which you do not receive the information you want so we can follow up and secure it for you. We hope that you will also name cases in which the material you do receive is particularly helpful. We would like to secure samples of this material for suggestion to other manufacturers by way of overall improvement in inquiry servicing. Just name the item or the manufacturer giving this help and we can go on from there.

Finally we offer you our many contacts to help answer special problems on product sources and procedure for which you find no solution in the current issue. If you will outline the problem to us we will be happy to make suggestions, name possible manufacturers for you to contact direct. If we cannot do this we will publish a summary of the problem in the "I Wish I Had" column and invite suggestions to forward to you from all of IEN's readers. We have handled thousands of questions of this type since IEN was established in 1933 as the original specialist publication for useful product information.

W. E. Irish.

BREVITY—identify by IEN-2217 if you write the maker

LOW COST, ORGANIZED STORAGE SPACE

32-DRAWER (96 COMPARTMENTS) Metal Storage Units

CRYSTAL CLEAR OR MATCHING GRAY PLASTIC DRAWERS

MODEL J-32

$11.95

F.O.B. AKRON

15¼" high
8" deep
12½" wide

HUNDREDS OF USES:

Useful in every shop, lab, office, stockroom, store, home, assembly line . . . in radio, TV, photographic and ignition work.

Orderly storage for small parts, bolts, nuts, drills, tools; carbide tips; buttons; thread; saucer clips, labels, pins, rubber bands, clamps, fibers, photo supplies, negatives, fishing tackle, artist supplies, medical supplies, marine supplies, drugs, jewelry, etc. Safety catch ends accidental spilling, identity card drops into slot in drawer front.

Made in 6 sizes:

J-64	64 drawer	192 compartments	$22.95
J-32	32 drawer	96 compartments	11.95
J-24	24 drawer	72 compartments	10.25
J-16	16 drawer	48 compartments	7.25
J-12	12 drawer	36 compartments	5.45
J-8	8 drawer	24 compartments	4.08

SEND FOR FREE DESCRIPTIVE FOLDER

AKRO MILS, INC. P.O. BOX 989 AKRON 9, OHIO

BREVITY—identify by IEN-2218 if you write the maker

SPECIFY

Dependable, Smooth running

SEALMASTER BALL BEARING UNITS

- Pillow Blocks
- Take-up Units
- Flange Units
- Cartridge Units
- Flange Cartridge Units

WRITE FOR CATALOG No. 845

Permanent Seal—Patented centrifugal seals exclude dirt and retain lubricant.

Self-Aligning—Misalignment of shaft in any direction cannot distort the seals.

Pre-Lubricated—Each SealMaster is shipped with lubricant sealed in—ready for use.

BEARING DIVISION

STEPHENS-ADAMSON MFG. CO.

Car Pullers · Car Loaders · Winches · SealMaster Ball Bearings · Speed Reducers · Conveyors · Elevators · Screens

231 RIDGEWAY AVE., AURORA, ILL.

BREVITY—identify by IEN-2219 if you write the maker

throw your wrench away

CONNECT or DISCONNECT *any* fluid or electric line *without a wrench*

Join or separate any line with your fingers. You do it in seconds instead of minutes, when you use leakproof WIGGINS Inst-O-Matic couplings. We design to meet your requirements.

SUBMIT YOUR PROBLEM. WIGGINS Inst-O-Matic couplings can reduce your costs. Write today. There's a qualified representative near you.

Wiggins
Aircraft Division
E. B. WIGGINS OIL TOOL CO. Inc.
3434 E. Olympic Blvd., Los Angeles 23

INST-O-MATIC COUPLINGS

▼ BREVITY—Identify by IEN - 2220 If you write the maker ▼

STOP VIBRATION.....

2 WAYS WITH... LOVEJOY FLEXIBLE COUPLINGS

By use of special cushion materials, Lovejoy Flexible Couplings stop vibration due to misalignment of shafts *and* vibration inherent in either connected machine! Shock, backlash and surge are also absorbed — instantly and permanently. No shutdowns for changing cushions, which are available for every service . . . 1/6 to 2500 H. P. No lubrication ever needed.

Write for catalog and Quick-Finding Selector Charts

LOVEJOY FLEXIBLE COUPLING CO.
9014 W. LAKE STREET CHICAGO 44, ILLINOIS

Also Mfrs. of Lovejoy Universal Joints and Lovejoy Variable Speed Transmissions

▼ BREVITY—Identify by IEN - 2221 If you write the maker ▼

S-A WINCHES SAVE TIME and MANPOWER

There are many lifting and pulling jobs around a plant which can be handled quickly, safely and more economically by an S-A hand-powered or motorized winch. A variety of S-A winches are available, enabling one man to lift loads up to 3000 pounds.

Write for Bulletin No. 340 for complete details.

Both Hand and Motor types for all kinds of hoisting jobs.

STEPHEN S-ADAMSON MFG. CO.

Tellevel-Bin Level Controls · Saco Speed Reducers · Car Loaders · Car Pullers · Winches · SealMaster Ball Bearings

231 RIDGEWAY AVE., AURORA, ILLINOIS

▼ BREVITY—Identify by IEN - 2222 If you write the maker ▼

SAVE UP TO 85% ON TOOLS—MACHINERY AND PARTS!!

1952-230 PG CATALOG

WAR SURPLUS SAVINGS

Stationary or Portable ARC WELDER 97.50

HYDRAULIC PUMP & CYLINDER SPECIALS

Special! HYDRAULIC CYLINDER 29.95

32.25

5.75

19.95

FOUR WAY VALVE 9.75

PALLEY SUPPLY CO.

▼ BREVITY—Identify by IEN - 2223 If you write the maker ▼

MOTOR . . Three-phase induction, prelubricated ball bearings, to 125 hp.

Source: ROBBINS & MEYERS INC.
1343-47 Lagonda Ave., Springfield 99, Ohio

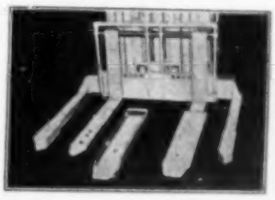
"All-Weather" unit

Four ratings in NEMA frames 444, 445, 504 and 505 have been added to the company's line of standard 3-phase ac. induction motors. Previous maximum rating of 50 hp. is extended to 125 hp. The motors are available for operation on 220 or 440 volt input. They are ball-bearing design in drip-proof construction with fan ventilation. The bearings are factory lubricated and sealed so no lubrication attention will be required under normal circumstances for at least five years.

▼ BREVITY—Identify by IEN - 2224 If you write the maker ▼

TRUCK . . Telescoping forks apply company's truck to large and small pallets

Source: RAYMOND CORP.
3589 Madison St., Greene, N. Y.



Formed-steel channels with a retaining bar fit over the regular elevating forks of the company's 1 and 1½-ton Straddle Type electric trucks. The new arrangement provides adjustment for both large and small pallets. A locking pin is welded to the fork extension and drops into any one of a series of holes drilled in the regular fork so the extension can be set at several lengths.

▼ BREVITY—Identify by IEN - 2225 If you write the maker ▼

PAINTING . . Pneumatic pump delivers paint from original container

Source: GRAY CO.
50 Grace Square, Minneapolis 13, Minn.

Heavy paints and other fluids for spray application can be delivered to considerable distances and can service multiple spray gun outlets by application of this new unit in the company's Paintmaster line. The assembly includes a double-acting pneumatic reciprocating pump and a pneumatic stirring unit assembled on a cover that applies on an original paint container. The fluid is lifted from the container without applying any internal pressure for delivery.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2226 If you write the maker ▼

TROMBETTA SOLENOID CO.
331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.

SB-373 SHOE BRAKE
10" WHEEL, 5" FACE, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE 3 TO 16500 FT.-LBS.

B-100 LINE OF DISK BRAKES
TORQUE 10 TO 25000 FT.-LBS.

EIGHT LINES OF SOLENOIDS
RECIPROMOTORS AND SEMOTORS

▼ BREVITY—Identify by IEN - 2227 If you write the maker ▼

EFFICIENT *Electric* HEAT GIVES YOU $$$ SAVINGS

CHROMALOX *Electric* HEATERS

SAVE MONEY, TIME AND LABOR WITH THESE EFFICIENT AND PROVED HEATING UNITS

If you use heat in your production line, processes or products, Chromalox Electric Heaters can most likely point the way to added savings through increased efficiency, lowered costs, decreased working time. See for yourself how Chromalox Heaters can go to work so easily in your plant.

GET THIS BOOKLET—IT TELLS YOU HOW

EDWIN L. WIEGAND CO., Industrial Division
7585 THOMAS BLVD., PITTSBURGH 8, PA.
Send me the illustrated booklet "100 Ways To Apply Electric Heat."
Name
Company
Street
City Zone
State
I use heat for
19-10

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

See Chromalox Radiant Heaters Advertisement, Page 11

▼ BREVITY—Identify by IEN - 2228 If you write the maker ▼

STOP ACCIDENTS with BRADY SAFETY SIGNS

Here's an AMAZING BRAND NEW SAFETY SIGN that will be welcomed by Safety Men! Brady Safety Signs stick to wood, glass, metal, concrete, etc. without moistening. May be applied to any clean surface in a jiffy. No screws, nails, bolts or skilled help necessary. All you do is peel from card, apply where wanted and the sign is up to stay.

Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

WRITE FOR Free SAMPLES and colorful CATALOG

MANUFACTURERS OF SELF-STICKING PRODUCTS

W. H. BRADY COMPANY
1693 E. SPRING STREET • CHIPPEWA FALLS, WIS.

▼ BREVITY—Identify by IEN - 2229 If you write the maker ▼

New MOTOR Catalog

GET THIS COMPLETE LISTING of electric motors for every purpose. Shows motor types, construction features, ratings, mechanical and electrical modifications available, NEMA definitions and much other useful data to help you.

To get your copy, call your nearby Allis-Chalmers District Office or send coupon today.

ALLIS-CHALMERS A-1929
PO Box 512
Milwaukee 1, Wisconsin
Please send me your Handy Guide to Motors (5186052).
Name
Company
Address
City State

ALLIS-CHALMERS

BREVITY—Identify by IEN - 2230 if you write the maker

HORIZONTAL POWER . . .

. . . where Belt Surface Conveyors can't stand abuse of heavy metals, sharp corners or rough edges. Metzgar "Live Roller" units provide an all-metal, powered bearing surface. May be used as power booster in gravity line. Work can be slowed or held without stopping machine.

Furnished portable or permanent mounted. Choice of one to five rollers per foot. Lengths to suit. Ball bearing throughout. Gearmotor AC or DC drive.

ASK FOR FOLDER NO. 1249

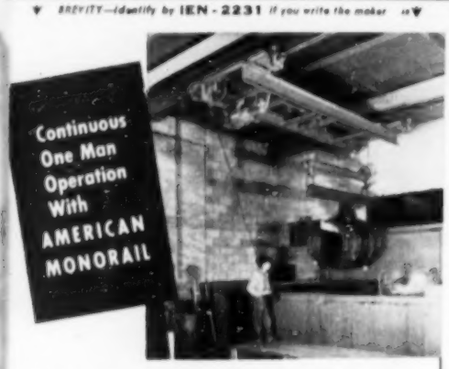
4 STOCK SIZES
11½" - 15"
18" - 24"
WIDTHS

METZGAR CO. METZGAR

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES • REEL DOLLIES & END-WOOD WHEELS.

417 Douglas, N. W.
GRAND RAPIDS 4, MICH.

BREVITY—Identify by IEN - 2231 if you write the maker



Here's an operation that must be on the go, all the time and fast, and yet, one man plus an American MonoRail Crane keeps the line flowing smoothly and fast. Fast operating, constant service, American MonoRail Cranes are ruggedly built to handle loads up to 10 tons at operating speeds of 500 feet per minute. Articulated trolleys assure perfect alignment of trucks for smooth crane travel.

Let an American MonoRail engineer explain all the advantages of these constant service cranes.

THE AMERICAN MONORAIL COMPANY
13111 Athens Avenue • Cleveland 7, Ohio

BREVITY—Identify by IEN - 2232 if you write the maker

JUST PRINTED!

NEW SLIDE CHART MAKES HEAT TREATING EASIER

Enables you to find at a glance this heat treating information on Carpenter Matched Tool and Die Steels:

- Forging heat
- Normalizing heat
- Annealing treatment
- Hardening treatment
- Drawing ranges
- Effect of drawing temperature on hardness

Gives new, valuable data on speed of heating with 2 vital rules for better results, tips on quenching in water, brine, oil and air, estimating oxidizing atmospheres, heating time, etc. A "must" to help every toolmaker and heat treater get better results, today. Return coupon now for free, easy-to-use slide chart.

THE CARPENTER STEEL COMPANY
151 W. Bern Street • Reading, Pa.

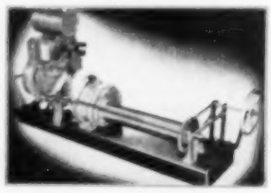
Please rush to me at no obligation, new Carpenter Guide to *Simplified* Tool Steel Heat Treating.

NAME ..... TITLE .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....
(PLEASE PRINT)

BREVITY—Identify by IEN - 2233 if you write the maker

WINCH . . Engine or motor driven rates ½-ton hoist load at 110 fpm.

Source: WILSON-ALBRECHT CO.
3561 Wooddale Ave., Minneapolis 16, Minn.



Speed governs braking

A gasoline engine rating 6 hp. or a single-phase induction motor rating 3 hp. for 110 or 220-volt ac. is available in the assembly of this recently improved winch. It was designed originally for use with the company's material-hoisting towers and elevators. The new construction includes a built-in brake that governs the descending speed to keep it within safe limits.

Series 800 employs a drum that will take 500 ft. of ¼-in. steel cable. Series 900 takes 240 ft. of the same size cable. The engine and the motor are intended for operation at 3,600 rpm. in both designs for the 110-fpm. hoisting speed.

BREVITY—Identify by IEN - 2234 if you write the maker

VENTILATING . . Neoprene-nylon duct, wire reinforced, sizes 1½ to 24 in.

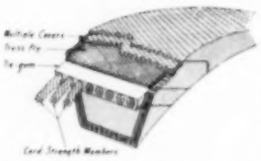
Source: AMERICAN VENTILATING HOSE CO.
100 Park Ave., Room 3415, New York 17, N. Y.

Light weight, flexibility, resistance to wear when handling abrasive dust, characterize the company's new neoprene-nylon duct. It is suited for both vacuum and pressure services. Availability is two to four weeks in sizes from 1½ to 24 in. in inside diameter.

BREVITY—Identify by IEN - 2235 if you write the maker

DRIVE . . Fabricated V-belt, cord reinforced and molded in one unit

Source: RAYBESTOS-MANHATTAN INC.
63-65 Willett St., Passaic, N. J.



Ask for Bulletin 6830B

Straight side walls for maximum grip, synthetic cords, straight-in-line with the truss ply to prevent stretch in service, characterize the company's new Whipcord Single Groove V-belt. Assembly is complete in a molding process that bonds all members into an integral inseparable unit. The belt is made endless in three series each with a 40-deg. angle. Top width is $\frac{5}{16}$ to $\frac{21}{32}$ inch. Thickness is $\frac{7}{32}$ to $\frac{7}{16}$ inch. The smallest ranges from 11 to 61 in. and the largest from 25 to 100 in. in overall belt circumference.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2236 if you write the maker

ABILITY to carry the load

Truscon Steel Box and Skid Platform units in various sizes to fit individual requirements are fabricated from heavy gage steel sheets of uniform thickness, into which deep reinforcing ribs are pressed to produce maximum strength and rigidity. The skid platforms of these units can be equipped to meet specific requirements of any industry. They can be used for any type of commodity, with hand or power lift trucks or cranes. Write for illustrated literature describing the line of Truscon Steel Boxes and Skids available.

TRUSCON STEEL COMPANY • Pressed Steel Division
6200 Truscon Avenue, Cleveland 4, Ohio • Subsidiary of Republic Steel Corp.

BREVITY—Identify by IEN - 2237 if you write the maker

BREVITY—Identify by IEN - 2238 if you write the maker

An Adjustable
FLOW REGULATOR

This newly perfected adjustable Flow Regulator holds at a constant rate even though the pressure fluctuates.

The valve controls adjustably in one direction and permits uncontrolled return flow.

The spring back piston in the housing is mounted in front of the adjustable screw. It carries a calibrated orifice; operates axially on change in inlet pressure so as to increase the throttling action.

Four sizes, ¼, ⅜, ½, and ¾ inch. Overall length 4½ to 7½ inches. Adjustable over a 50% flow range. Maximum pressure is 3000 pounds.

Write for illustrated circular.

West Coast: H. E. Webb
918 North Kenilworth Avenue • Glendale, California

WATERMAN ENGINEERING Company
725 CUSTER AVENUE
EVANSTON, ILLINOIS

BREVITY—Identify by IEN - 2239 if you write the maker

for • SPRAYING • WASHING • RINSING • COOLING • AIR CONDITIONING

Get the most out of your Spraying Equipment with minimum power . . . with efficient spraying.

Use Yarway Nozzles. No internal vanes or other restrictions to clog or hinder flow.

Wide range of standard sizes and capacities. Cast or machined from solid bar stock.

Thousands in use. Write for Bulletin N-616.

YARWAY
SPRAY NOZZLES
YARNALL-WARING COMPANY
122 Mermaid Avenue, Philadelphia 18, Pa.

BREVITY—Identify by IEN-2240 if you write the maker

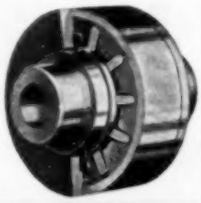
KUSHION-TORQ
WHAT IT WILL DO FOR YOU

The Cushion Torque of Kanti-Lever Couplings absorbs the hammer blows of sudden or reversing loads and dampens the torsional and radial vibration that causes wear, fatigue and sometimes failure of Motors, Speed Reducers, Ball Bearings and productive machinery. No other coupling is like the Kanti-Lever: It has a circular series of laminated Cantilevers of 200,000 lb. steel, operating in slots, the tapered sides of which automatically stiffen the Cantilevers under increased overloads. Special end-play up to four inches is possible without end thrust. The outer periphery of the Kanti-Lever is available as a brake drum for quick-stopping or reversing machinery.
Send for Bulletin No. 28-N.

Kanti-Lever Couplings

4,000,000 h.p. in Use

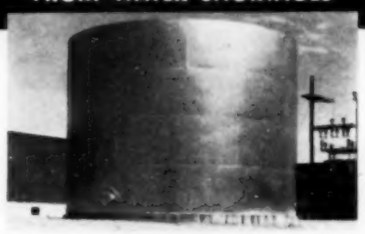
MFRS. OF SECTIONAL STOCK RACKS



BROWN ENGINEERING CO.
122 NORTH 3RD ST. READING, PENNA.

BREVITY—Identify by IEN-2241 if you write the maker

PROTECT YOUR PLANT FROM WATER SHORTAGES



Horton welded steel reservoirs offer real protection from temporary water shortages. Installed at your plant, they assure a private water supply that's *always ready* to be used for general service, processing, or fire protection.

Capacities range up to 10,000,000 gallons. When requesting quotations, state capacity required, dimensions and location.

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • San Francisco
Seattle • Tulsa • Washington, D.C.
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

BREVITY—Identify by IEN-2242 if you write the maker

Mecco SAFETY ROUND SHANK TYPE HOLDER

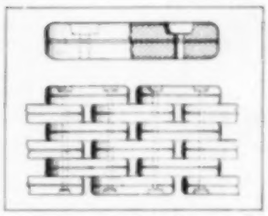
With the knurled shank designed to permit a firm, positive grip, the Model RS Type Holder is made of Mecco Safety Steel to eliminate mushrooming and spalling. The type is interchangeable, and the holder can be made for either one or two lines of type. Includes patented snap slide for quick changing of type.
Write for literature.

M. E. CUNNINGHAM CO.
SAFETY STEEL STAMPS
99 East Carson Street • Pittsburgh 19, Pa.

BREVITY—Identify by IEN-2243 if you write the maker

DRIVE . . Transmission belt made up of individual links and pins

Source: ALEXANDER BROTHERS
404-8 N. 3rd St., Philadelphia 23, Pa.



Jumbo links are new

Three sizes of leather link are now available in the patented Duplex transmission belt, previously described IEN-2845-40. The smallest is ¼ in. in thickness for belts from 1 to 3½ in. in width. The next measures $\frac{5}{16}$ in. for belts from 4 to 7½ in. in width. The largest and newest is ⅜ in. for belts measuring 8 in. and over.

Two plies of leather are employed in each of the links. Flesh sides are bonded together and each link is drilled for the connecting pins. Outside links in a finished belt are counterbored to ride the pin heads in protected position and permit operating the belt between flanges. The belt can be employed on either flat or crowned pulleys. It is particularly suited for any drive requiring strength to withstand heavy load where speed is relatively slow.

BREVITY—Identify by IEN-2244 if you write the maker

WELDING . . Aluminum rod for use with electric and gas equipment

Source: ALL-STATE WELDING ALLOYS CO.
271-5 Ferris Ave., White Plains, N. Y.

To produce clean welds

Type X-28 and Type X-43S are new aluminum rods. They are made by extruding to eliminate any chance of surface inclusions in order to meet Government specifications. Both rods are available in $\frac{1}{16}$ to ¼-in. diameters in 36-in. lengths or in coil form to make packages weighing 50 pounds.

BREVITY—Identify by IEN-2245 if you write the maker

DRIVE . . Speed reducer, worm design, 5 to 100 to 1, to 400 hp.

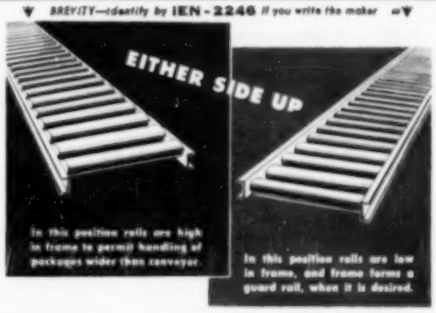
Source: NATIONAL TRANSMISSION PRODUCTS INC.
684 Broadway, Dept. "I", New York 12, N. Y.

Ask for Catalog 751

The company announces availability in the United States of a line of gear reducers made in England under the trade name Radiation. Small units with shaft centers at 1⅛, 1¾ and 2¼ in. can be supplied with the worm on the bottom, the top or in vertical assembly. Each is fitted with removable legs so mounting position can be changed in the field. Ten large sizes range in shaft centers from 3⅛ to 14 inches. Each is fan cooled.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN-2246 if you write the maker



A PRACTICAL FEATURE OF Logan STOCK ROLLER CONVEYOR

Above is shown one of the practical features of Logan Stock Roller Conveyor. Other features include (a) immediate shipment (b) available in several sizes (c) both straight and curved section can be furnished (d) both stationary and portable supports available. Write for literature.

Write or phone your requirements

Logan Conveyors
LOGAN CO., 276 CABEL ST., LOUISVILLE, KY.

BREVITY—Identify by IEN-2247 if you write the maker

Write for this new catalog

The latest L&N Optical Pyrometer catalog is just off the press. It gives full details on L&N Optical Pyrometers with ranges of 140 to 5200 F, suitable for sighting on either molten metal or furnace walls. The catalog describes the use and special features of the instrument, gives specifications and sums up the principles of optical pyrometry, all in 16 pages. It's free on request . . . just ask for catalog N-33D from Leeds & Northrup Company, 4908 Stenton Avenue, Philadelphia 44, Pa.

LEEDS & NORTHRUP CO.

Jrl Ad N-33D(9)

BREVITY—Identify by IEN-2248 if you write the maker

doorway protection for your packaged products

SIGNODE RETAINING STRIPS

Signode Retaining Strips are easily applied. They are economical . . . one or two strips may be all you need for adequate protection. Because they can be split at the center and draped back out of the way, Signode Retaining Strips permit walk-in and through-car loading, and the use of lift trucks and dollies in the cars. Ends are quickly joined, tensioned and sealed. These strips are made of heavy kraft paper reinforced, top and bottom, with strong Signode steel strapping. They reduce dunnage weight, end need for doorway liners, and prevent damage through doorway jamming. For details write,

SIGNODE STEEL STRAPPING CO.
2611 N. Western Ave., Chicago 47, Ill.

THIS SEAL MEANS SECURITY IN SHIPPING

BREVITY—Identify by IEN-2249 if you write the maker

SAFE • STRONG • SECURE

Before specifying or purchasing open steel flooring check these exclusive features of Blaw-Knox Grating—

1. SAFETY underfoot at all times assured by 3 twisted steel cross bars.
2. STRENGTH that only rigid "one-piece" Electroforged construction can provide.
3. SECURITY—no wobble, tilt or rattle caused by loose or lost screws, nuts, bolts.
4. EASY to maintain and paint . . . no sharp corners to clog with dirt.
5. MAXIMUM open area for light and air.

For complete data on Blaw-Knox Electroforged Steel Grating and Stair Treads write for Bulletin 2365.

BLAW-KNOX DIVISION OF BLAW-KNOX COMPANY
2050 Farmers Bank Bldg., Pittsburgh 22, Pa.

BLAW-KNOX Electroforged
STEEL GRATING & STAIR TREADS

BREVITY—Identify by IEN - 2250 If you write the maker

THOMAS TRUCK & CASTER CO.
211 Mississippi River
KEOKUK, IOWA

BREVITY—Identify by IEN - 2251 If you write the maker

✓CUT MAINTENANCE COSTS
✓INCREASE PRODUCTION
with this Famous TRICO Combination

Lock-like a vise and stay put. Pay for themselves many times over through great savings in power, fuses, clips.

Reduce pre-mature fuse blowings. Heating and arcing at contacts. Eliminate burnt fuses and clips. Prevent unnecessary shutdowns.

It's the EXCLUSIVE TRICO "Powder-Packed" CUSTOM-BUILT renewal element that makes the BIG difference . . . Literally a fuse within a fuse that provides:—3 Times The Fuse Service . . . Tamperproof protection . . . GUARANTEED safe time-lag . . . Link protection and support . . . Life-time outer parts.

WRITE FOR BUL. 1 & 6

TRICO FUSE MFG. CO., Milwaukee, Wis.
In Canada: IRVING SMITH LIMITED, Montreal

BREVITY—Identify by IEN - 2252 If you write the maker

DOWNS SAFETY GRABS ...GRIP ANYTHING!

FOR CRANES AND HOISTS...
Material lifting equipment will do more work—faster, easier—when you have the proper "grabs" for every type of load. No matter what your hoists are handling—pipe, rails, drums, plate or structural steel, stone, timber, boxes or odd-shaped objects of any description—there's a DOWNS *Safety* Grab that will enable you to do it faster, easier *and* safer. Learn new short cuts to greater efficiency for YOUR plant with DOWNS' *complete line* of *Safety* hoist grabs!

Write for Free Illustrated Catalog 200 Today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE • LOS ANGELES 37, CALIF.

BREVITY—Identify by IEN - 2253 If you write the maker

COMMUNICATING . . Amplifier for public address rates 80 watts

Source: ALLIED RADIO CORP.
831-35 W. Jackson Blvd., Chicago 7, Ill.

About $130

Knight-80 is a new high-power paging and music-distributing amplifier to serve plant areas as large as 200,000 square feet. It assembles four inputs for microphone and phonograph and six outputs. Five are from 4 to 500 ohms. One is a new RTMA 70-volt and 600-ohm low-level ungrounded for connection to telephone lines and additional amplifiers for extra power. Assembly is in a steel housing, 17 by 11 by 8½ inches. Operation is on 110-volt ac.

BREVITY—Identify by IEN - 2254 If you write the maker

DRYING . . Displacing liquid to shed water from surface of metals

Source: ENTHONE INC.
440-44 Elm St., Dept. IEN, New Haven 2, Conn.

List price is $2 in single gallons

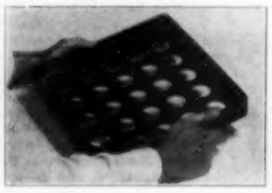
Liquid 51 has been added to the company's line of water-displacing liquids previously described IEN-10083-47. It is particularly suited for cold cleaning in tool rooms and machine departments to remove oil, dust, chips and solid dirt from work in progress. The work is immersed in Emulsion Cleaner 75. Then it is rinsed with cold water and immersed in Liquid 51 to shed the water film.

The volatile liquid penetrates into blind holes and crevices to displace any water that may be there. It evaporates when the work is taken out to leave a protecting film. Packaging is in 1, 5 and 55-gal. containers.

BREVITY—Identify by IEN - 2255 If you write the maker

HANDLING . . Plastic tote tray for artillery shell parts in process

Source: TEAL MOLDING CO.
67-71 Wheeler St., East Haven 13, Conn.



Molded to specification

Plastic material that will withstand rough handling, immersion in hot water and exposure to a quick blast of steam is employed in this new one-piece molded tote tray. It carries 25 parts for an artillery shell in base openings where each part rides separate from the others. Filled trays can be stacked 25 or more high. Each tray weighs about 47 lb. with its load so the bottom tray in a 25-unit stack will be holding a weight of about 1,122 pounds. Overall dimensions are about 12⅝ in. square.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 2256 If you write the maker

FAST... POSITIVE IDENTIFICATION

For a few cents per pipe, you can equip your entire plant with Brady QUIK-LABEL Pipe Markers. You can get a uniform system of pipe identification based on A.S.A. Standard A13. Names of materials printed in large black letters on correct A.S.A. background colors — no hand stenciling, painting, or hard to remember codes. Anyone who can read can tell at a glance the pipe contents and direction of flow. Over 235 different markers and direction arrows in stock. Specials made to order.

Brady QUIK-LABELS stick without moistening—applied in a jiffy. Silicone Plastic treated to resist dirt, grime, moisture—for indoor or outdoor service.

Brady Pipe Markers leave no room for doubt . . . or TRAGEDY.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

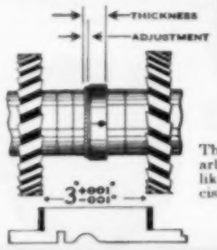
DISTRIBUTORS IN OVER 125 PRINCIPAL CITIES

MANUFACTURERS OF SELF-STICKING PRODUCTS
W. H. BRADY CO.
731 E. SPRING STREET • CHIPPEWA FALLS, WIS.

BREVITY—Identify by IEN - 2257 If you write the maker

SAVE TIME on GANG MILLING SET-UPS

Dayton Rogers *hardened and ground* adjustable spacing collars *do* save considerable time on set-ups for gang milling. After making a trial cut the cutter arbor nut is loosened and the necessary plus or minus adjustment is made with a handy wrench which is furnished. Collars are graduated in increments of .001".



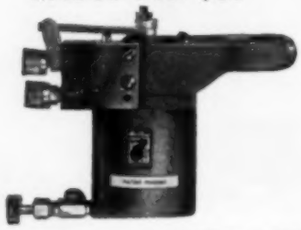
They are stocked for cutter arbors from ⅝" to 2". You'll like the speed, the precision, and the time saved!

Write Today For More Information!

DAYTON ROGERS Manufacturing Company
2836 13th AVE. S
MINNEAPOLIS, MINNESOTA

BREVITY—Identify by IEN - 2258 If you write the maker

DOUBLE YOUR DRILL PRESS OUTPUT FOR $33



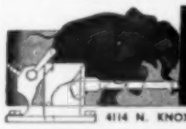
USE A NEW MEAD PNEUMATIC

This simple, inexpensive device quickly converts standard drill presses into semi-automatic machines—increases production substantially on suitable jobs: double or more in some cases.

Clamps to spindle quill in a few seconds. Automatically closes air fixture on work. Adjustable feed control and break-through cushion. Quick-return. Easy to synchronize with automatic cycle equipment.

Air-Power does it quicker, cleaner, better. Write today for latest complete catalog.

DRILL PRESS FEED for DRILLING REAMING TAPPING



MEAD SPECIALTIES COMPANY
4114 N. KNOX AVE., DEPT. BA-32, CHICAGO 41, ILL.

BREVITY—Identify by IEN - 2259 If you write the maker

REDUCES ACCIDENT HAZARD IN PRINTING PLANT!

More Proof that PABCO MASTIPAVE is the floor covering for YOU!

Listen to Harold Baxter, Vice-President of A. Carlisle & Co., one of San Francisco's largest printing concerns:

"Mastipave is so satisfactory we are planning to install it in other work areas. Our employees stand most of the time—really appreciate this floor covering. It's comfortable underfoot—has actually reduced the accident hazard from slips and falls. Employee efficiency is so important we couldn't do without Mastipave today. Under rough treatment, including light trucking, Mastipave has stood up well—low in cost—easy to maintain."

PABCO MASTIPAVE *in roll goods and tiles*

GRIP-TREAD *in roll goods only*

. . . Proved, for over 28 years—in schools, industries, hospitals, public buildings.
. . . Costs little, looks good, wears long.
. . . Worth investigating, for YOUR toughest job!

SEND NOW FOR THE FULL STORY OF MASTIPAVE

PABCO PRODUCTS INC.
New York 16 • Chicago 54 • San Francisco 19
(Mail to Dept. E, nearest office)

GENTLEMEN: Without cost or obligation to me, please send folder, "Every Building Needs Pabco Mastipave."

NAME _____
ADDRESS _____
CITY _____ STATE _____

BREVITY—Identify by IEN - 2260 if you write the maker

Parker-Kalon GROUND THREAD Socket Set Screws

SET RIGHT with SHOP MEN

RIGHT START
Quick starting. Speed assembly work and improve production.

RIGHT FINISH
Made from hardened stock. Smoothness of a true ground finish.

RIGHT FIT
Free from nicks, burrs and tool marks. Dependable Class 3 Fit.

RIGHT BUY
More for the money — — quality — in performance.

SEE FOR YOURSELF!

Send for Samples. Notice how much smoother (and easier starting) P-K® Quality Controlled Socket Set Screws are, the way they "set up" to dependable security. Once you try 'em, you'll use them regularly — to speed assembly work. Write for samples. Parker-Kalon Corp., 200 Varick St., New York 14, N. Y.

P-K

PARKER-KALON®
cold forged
SOCKET SCREWS

Size-Marked Socket Head Cap Screws • Ground Thread Socket Set Screws
Flat Head Socket Cap Screws • Stripper Bolts • Pipe Plugs • Hex Keys
Available Everywhere Through Accredited Distributors

BREVITY—Identify by IEN - 2261 if you write the maker

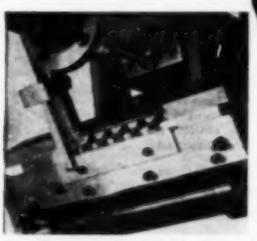
Don't Handcuff *Valuable* Manpower!

FREE IT FOR MORE IMPORTANT WORK— BY USING

DPS *Motorized* HOPPER UNITS

Modern production demands the speed and accuracy of this great aid to SELECTIVE FEEDING. It makes slow, manual methods obsolete and releases "frozen" manpower for more productive work. D.P.S. Motorized Hopper Units select, orient and feed production parts of a wide variety to a given position for primary and secondary operations. They are readily adaptable to all types of standard production equipment and special machines that would otherwise require constant attention by an operator.

SEE US AT THE A.S.T.E. SHOW MARCH, CHICAGO Booth No. 140



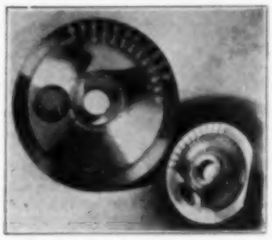
These illustrations show an interesting application, previously a problem of manual loading. Five terminals were to be inserted into the spark plug bodies simultaneously as the carrier progressed into the furnace for the firing operation. The carrier plates, illustrated, had equally spaced receiving holes drilled five abreast and were moved along an indexing conveyor with a momentary pause beneath the ram of the special inserting machine. At this pause the transfer slide (close-up) transferred five terminals into proper vertical position, at which time index of the conveyor cycled the machine and an air cylinder inserted the studs into the spark plug bodies, eliminating the manual insertion of the terminal studs.

DETROIT POWER SCREWDRIVER CO.
2815 W. FORT ST. DETROIT 16, MICH.

BREVITY—Identify by IEN - 2263 if you write the maker

BALANCING . . Gage disc for grinding, polishing, buffing wheels

Source: ANDERSON BROS. MFG. CO.
1905-9 Kishwaukee St., Rockford, Ill.



Locates wheel in balance

Spedi-Balancer is a new disc-type gage for application on an arbor with a grinding, polishing or buffing wheel that is to be static balanced. The wheel is marked to show the setting of the discs on the new unit so that when it is removed and then replaced it can be set according to these markings and does not require rebalancing. The unit is made to fit arbors from 1/2 to 3/4 in. in a No. 10 and from 1 to 1 1/4 in. in a No. 15.

BREVITY—Identify by IEN - 2264 if you write the maker

TUMBLING . . Paste concentrate for work finishing in a tumbling barrel

Source: BLUE MAGIC CHEMICAL SPECIALTIES CO.
2137 Margaret St., Philadelphia 24, Pa.

Free sample upon request

Rust inhibiting action characterizes new No. 8-12 in the company's line of deburring and finishing compounds, previously described IEN-12741-51. A load of work deliberately dumped without rinsing or drying at the end of a deburring cycle showed no indication of corroding at the end of three hours. The material is a concentrated non-dusting granular composition. Color is white. From 1/2 to 1 lb. is sufficient for a load in a 32 by 30-in. tumbling barrel.

BREVITY—Identify by IEN - 2265 if you write the maker

PRESS . . Hand hydraulic unit to plastic laminate badges, passes

Source: HARCO INDUSTRIES INC.
21 Curtice St., Rochester 5, N. Y.

Work measuring to 5 by 6 in. is mounted between locating pins on a rotating table in this new press. The table carries the work into place between electrically-heated platens. Pressure is applied by operating a pump lever. The heat brings the work up to plasticizing temperature where it holds for a predetermined interval as set on a timer.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2266 if you write the maker

RUEMELIN BLAST GENERATORS

A practical low-cost sand blast used by plant engineers for maintenance work. Cleans rust, paint, scale from piping, valves, fittings, renovating buildings, stripping paint from trucks, busses, trailers, railroad cars, structural steel, storage tanks, ship hulls, etc. Can be fitted with Wet Adapting Nozzle for eliminating dust.

Write for Bulletin 36-C

RUEMELIN MFG. CO.
8863 N. Palmer St.
Milwaukee 12, Wis.

Manufacturers and Engineers
SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS.

BREVITY—Identify by IEN - 2267 if you write the maker

STA-WARM COMPOUND MELTERS NOW MORE POPULAR THAN EVER

D. O. Contractors Break Bottlenecks with Improved Sta-Warm Heaters

VARIETY OF TYPES AND SIZES TO SUIT

50 gallon compound melter with motor driven agitator and molasses gate valve.

Defense Order contractors who are forced to step up production and dispensing of melted compounds to match increased machining and assembly schedules are turning to Sta-Warm. Here prompt delivery of many types and sizes of compound and soft metal melters are being shipped to perform both ordinary and unusual compound melting operations.

With capacities from 1 pint to any practical gallonage, all designed to fit snugly into special compound melting applications . . . with high efficiency plus economical operation . . . D.O. contractors know many standard Sta-Warm heaters are available to them.

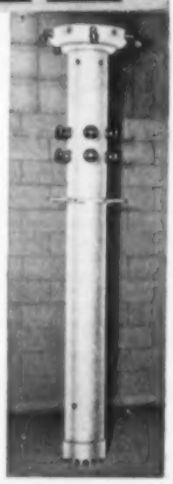
For compound melters, the first place to inquire is Sta-Warm.

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST., RAVENNA, OHIO

BREVITY—Identify by IEN - 2268 if you write the maker

BRADLEY COLUMN SHOWERS FOR GROUP USE

- Complete Units
- Easy to Install
- Only Three Plumbing Connections
- Five Showers in One Unit



Bradley Column Showers are shipped complete with drain fittings, sprayheads, soap trays and mixing chamber for temperature control with hot and cold water control valves. Bradleys are easily and quickly installed. Only 5 plumbing connections are needed instead of 15 required by 5 ordinary single-stall showers. Floor space and water are also saved.

Write for Catalog 4701CS for full information on Bradley Column and Multi-Stall Showers.

BRADLEY WASHFOUNTAIN CO.
2219 W. Michigan St., Milwaukee 1, Wis.

BRADLEY showers

Distributed through Plumbing Wholesalers

BREVITY—Identify by IEN - 2269 if you write the maker

FINISHING PROBLEM?

Switch to Black & Decker POWER!

B & D SANDERS
3 models, 7" and 9" disc diam., standard and heavy-duty types

B & D ELECTRIC SANDERS drive abrasive discs, saucer grinding wheels, "Whirlwind" wire cup brushes, planing and gouging heads—to speed up sanding metal and wood; grinding down welds and casting ridges; cleaning castings, tanks, vats, sheet metal and soldered joints; surfacing timbers. B&D-built universal motors for dependable service. Matchlapped, spline-mounted spiral bevel gears for smooth, quiet flow of power. Perfect balance for easier handling. See your nearby B & D Distributor for a demonstration. Write for free catalog to: THE BLACK & DECKER MFG. CO., 615 Pennsylvania Ave., Towson 4, Md.

LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker
PORTABLE ELECTRIC **TOOLS**

BREVITY—Identify by IEN - 2270 if you write the maker

Portable SYNTRON ELECTRIC SAW

This new Dual V-Belt Drive assures vibrationless, velvet-smooth operation with surplus power for faster, cleaner cutting. "Cushion Action" absorbs shocks and adds life to the motor.

Here is your saw for cutting job time and costs. Syntron Portable Electric Saw with Dual V-Belt Drive.

Write for Illustrated Literature

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—Identify by IEN - 2271 if you write the maker

CAST IRON FRAME MOTORS *resist corrosion...*

Wagner cast iron motors are built for use wherever protection against corrosion is required. They are totally-enclosed and fan-cooled to fully protect their operation against corrosive agents, dirt and dust. Where additional protection against explosive atmospheres is desired, an explosion-proof design is available. Both the standard and the explosion-proof types are built in ratings from 2 to 250 hp, with either normal or high torque characteristics. Bulletin MU-152 gives complete information. Write for your copy today.

Wagner Electric Corporation
6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

BREVITY—Identify by IEN - 2272 if you write the maker

SIMPLE LOW-COST BIN-FLO AERATOR UNITS KEEP BULK MATERIALS MOVING

Finely ground dry materials in storage often lose air content and pack or bridge, thus losing capacity to flow.

BIN-FLO units diffuse low-pressure air through such materials, preventing packing and maintaining or restoring natural flow.

Easily installed in chutes, bins, hoppers, etc. Can be automatically controlled by BIN-DICATOR bin level indicators. Low first cost, low operating cost. Used in many industries. Fully guaranteed. Send for folder.

BIN-DICATOR—"The Eyes of the Bin" watches material levels automatically and reports to central control point. Send for free book.

BIN-DICATOR Bin Level Indicator

NEW 20-PAGE BOOK FREE

THE BIN-DICATOR CO.
13946-B Kercheval • Detroit 15, Mich.

BREVITY—Identify by IEN - 2273 if you write the maker

LUBRICATING . . Solid wax coolant for metal cutting, grinding and sanding

Source: S. C. JOHNSON & SON INC.
1523-27 Howe St., Racine, Wis.

Aluminum sawed "with" and "without"

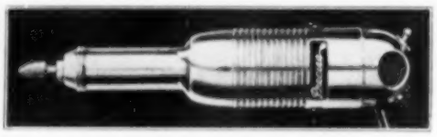
Service life of saw blades, drills, dies, taps can be extended materially, as compared with dry operation, by application of the new No. 140 Stik-Wax. Burrs are virtually eliminated and smooth cut surfaces result. In addition to metal-cutting operations, the wax will keep temperature down and prevent clogging of abrasive surfaces of wheels, sanding pads, abrasive belts. Application can be made manually by the operator or by means of automatic applicators such as those employed to dress a buffing wheel.

Packaging is in a transparent pliofilm wrap in a cardboard tube. Each stick is 2 in. in diameter and weighs one pound. A total of 24 sticks make up a case with list price at $1 per stick. Single sticks list at $1.25.

BREVITY—Identify by IEN - 2274 if you write the maker

GRINDING . . Motor driven tool for free hand use or machine mounting

Source: PRECISE PRODUCTS CO.
1326 Clark St., Racine 1, Wis.



Assembled in aluminum housing

Free speed is at 45,000 rpm. for the cartridge-enclosed universal motor and its direct-coupled spindle in this new design of the company's Super 40 tool. Speed under load is controllable as required by the user in a range starting at 15,000 rpm. The tool applies for free-hand use or with machine mounting to drive mounted grinding wheels or carbide milling cutters, saws, small drills, polishing wheels. Operation is on 110-volt ac. or dc.

A flexible shaft can be supplied when the tool is to be used in a stationary mounted position for free-hand work. Delayed-action release is provided for the motor in the event of overload. Connection is made to a power source through a neoprene cord measuring 8 ft. in length. It is equipped with a molded plug and ground connection. The tool measures about 11 in. in overall length by 2½ in. in diameter at its rear end. It weighs a little over 3 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Junk old machines for scrap!

BREVITY—Identify by IEN - 2275 if you write the maker

16 years, supplying billions of set screws for all kinds of products

is your set screw problem more puzzling than this one?

Then do like Barnes Manufacturing Co., Mansfield, O., a leading manufacturer of cellar drainers. They solved the problem of set screws coming loose, by using

ZIP-GRIP' Self-Locking SET SCREWS

If you have a product that has to operate under adverse conditions (such as the heavy onrushes of swirling water, in this Barnes cellar drainer) investigate using ZIP-GRIP* Self-Locking Set Screws.

send for FREE Demonstrator and DATA Sheet—that demonstrates dramatically why ZIP-GRIP* is successfully solving the puzzling set screw problems of this and over a hundred other products.

Write today and we'll tell you how to get Free Engineering Test Samples for your application, without cost or obligation on your part.

*Pat. Pending
Makers of SETKO SET SCREWS

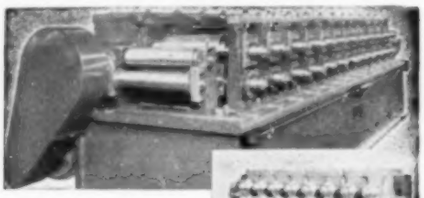
Set Screw & Mfg. Co.
5 Main St. Bartlett, Ill. (Chicago suburb)

We specialize in Solving Puzzling Set Screw Problems.

BREVITY—Identify by IEN - 2276 if you write the maker

RAFTER COLD METAL ROLL-FORMING MACHINES

Correct Design for Maximum Efficiency



Typical Rafter Roll-Forming Machines illustrating the wide range of sizes and capacities, covering the entire sheet metal forming field.

Patented balanced gear drive mounted on roller bearings distributes power efficiently to each pair of rolls . . . Gear ratio is a continuous reduction from drive shaft to roll shaft, quiet, efficient and compact. This drive consumes less power than any other type . . . Exclusive design permits greatest vertical adjustment of the upper roll spindles, without the aid of square gearing or small complicated gears . . . Design permits quickest and most accurate change of rolls possible. Shafts always remain parallel. Adjusting screws connect front and rear bearings . . . Low power consumption, lasting accuracy, longer roll life, and higher output are made possible by these and many other features.

RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street • Belleville 9, N. J.
GANG SLITTERS and PRESS BRAKE DIES

BREVITY—Identify by IEN - 2277 if you write the maker

Ledeen VALVES

14 Models for Positive, Easy Actuation of Air or Hydraulic Cylinders

HAND OPERATED 4-WAY VALVE
A simple, economical valve, suitable for most requirements. Requires only light turning effort. Built for long life.

FOOT OPERATED 4-WAY VALVE
Leaves hands free for other work. Requires only light pedal pressure. Works like accelerator throttle. Particularly valuable for women workers.

POWER OPERATED 4-WAY VALVE
For remote control with or without electricity. Can be controlled by microswitch, cam, finger or toe operation.
Ledeen Valves embody the rotating disc construction, and are designed for controlling the flow of air, oil or water. They are made in 14 different models for 5 different cycles, in 6 sizes.

Ledeen Mfg. Co.
1602 San Pedro St.
Los Angeles 15, Cal.

Write for Bulletin 510

BREVITY—Identify by IEN - 2278 if you write the maker

WHERE VIKING PUMPS LEAD ... OTHERS FOLLOW!

VIKING PUMP ORIGINAL GEAR-WITHIN-A-GEAR PRINCIPLE

Viking — the original "gear within a gear" pump is the most copied of all rotary pumps. Feature after feature, improvement after improvement FIRST appearing in VIKING pumps is copied by many manufacturers.

When you need pumps, specify the original "gear within a gear" Viking to be sure the pump is built for your job.

Fast, positive self-priming of all Viking pumps in the complete range of sizes, ½ to 1050 gpm, assures you of dependable pumping of either light or heavy liquids in the size and style needed.

Ask for descriptive bulletin, 52SF today.

Viking PUMP COMPANY
Cedar Falls, Iowa

BREVITY—Identify by IEN - 2279 if you write the maker

SEALTITE ELECTRICAL WIRING CONDUIT FLEXIBLE AND LIQUID-TIGHT

1. Sealtite* is *strong*—has a flexible steel core.
2. It's *durable*—a heavy synthetic jacket resists steam, chemicals, oil, water, abrasion, etc.
3. Sealtite is *economical*—because it reduces repairs, absorbs vibration and can be used where connections move.

Sealtite is easy to install, can be cut as you need it. Sealtite comes in all standard electrical sizes—using standard electrical fittings. It is available at your electrical supply house. The American Brass Company, American Metal Hose Branch, Waterbury 20, Connecticut. In Canada: The Canadian Fairbanks-Morse Company Ltd.

for **flexible, liquid-tight** electrical conduit . . . specify

SEALTITE

AN ANACONDA* PRODUCT

BREVITY—Identify by IEN - 2280 if you write the maker

CHROMALOX gives you the *LOW COST* answer for

VARIABLE HEAT

NON-BREAKABLE INFRARED

SAFE OPERATION

CHROMALOX ALL-METAL *Electric* RADIANT HEATERS

The new and improved CHROMALOX heating principle gives ALL infrared heat advantages: high heat intensity, "color blind" infrared radiation, heat that's infinitely variable! You get more satisfactory results at reduced costs in baking, drying, curing, preheating and similar uses with CHROMALOX Radiant Heaters.

Write for FULL DATA

Tell us what you want to do with infrared heat and we'll send you data sheets covering your needs.

Radiant Heater Div., Edwin L. Wiegand Co., 7505 Thomas Blvd., Pittsburgh 8, Pa.

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

See Chromalox Electric Heaters Advertisement, Page 5

BREVITY—Identify by IEN - 2281 if you write the maker

NEW! INEXPENSIVE PEDESTAL GRINDER

USES MANUFACTURER'S OWN MOTOR

FEATURES

- **MOTOR** — Oversized ball bearings, lubricated for life.
- **ADJUSTABLE WHEEL GUARDS**—Grinding surfaces of worn wheels always accessible.
- **SIMPLE WHEEL CHANGES**—Hinged cover flips up to expose entire wheel. Uses up to 14"x 2" wheels.
- **STARTING SWITCH PROVIDES OVERLOAD PROTECTION.**
- **SAFETY PLATE EYE SHIELDS.**
- **ADJUSTABLE TOOL RESTS.**

The new Reuland line of "Utility" pedestal grinders, buffers and sanders offer users great savings in both first cost and operation. Powered by special Reuland grinder motors.

Reuland "utility" units are used for medium or heavy-duty work and are ideally suited to both large and small shops.

Available for 110 and 220 volt single phase or 208, 220/440, 380 and 550 volt 3 phase—50 or 60 cycle.

DUSTLESS GRINDER

Used wherever amounts of abrasive dust may be harmful to other equipment or worker health. Blower collects all dust and recirculates clean air back into shop. Front opening trap

Write for price list and folder No. 0-1000-3

REULAND ELECTRIC CO.

ALHAMBRA, CALIFORNIA • DISTRIBUTORS IN PRINCIPAL CITIES

BREVITY—Identify by IEN - 2282 if you write the maker

LATHE TOOL . . Adjustable holder positions bit on centerline of the work

Source: TECHNICAL DEVELOPMENT CO.
20-24 Meredith Road, Philadelphia 31, Pa.

Developed in England

Slotted collet rides in a tapered seat in this new holder. It is held in place by tightening a left-hand nut on its integral stud. The collet grips a tool bit when it is pulled into position. It permits locating the cutting edge on the work centerline. Three holder sizes take ¼ to ⅜-in. bits. Shank width is $\frac{7}{16}$ to ⅝ inch. Height is 1 and 1¼ inches. Each holder is supplied with a tool-steel bit and spanner wrench.

BREVITY—Identify by IEN - 2283 if you write the maker

PAINTING . . Spray booth coating collects overspray, then strips clean

Source: DETREX CORP.
14329 Woodrow Wilson, Detroit 32, Mich.

Sprays on

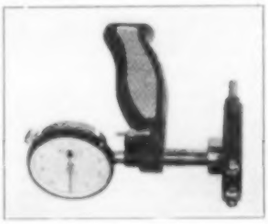
peels off

Paint overspray in a dry or a water-wash paint booth collects on the surface of this new Vincote plastic coating after it has been spread over the walls by spraying. The coating dries quickly to form a tough film that is impervious to paint, enamel, lacquer, water. The film is cut and peeled off at intervals with the accumulated overspray and is replaced with a fresh coating so the booth remains clean. One gallon covers 275 to 400 square feet.

BREVITY—Identify by IEN - 2284 if you write the maker

GAGE . . Dial indicator design for internal diameters, 1 to 12 inches

Source: NILSSON GAGE CO.
4A Lake St., Poughkeepsie, N. Y.



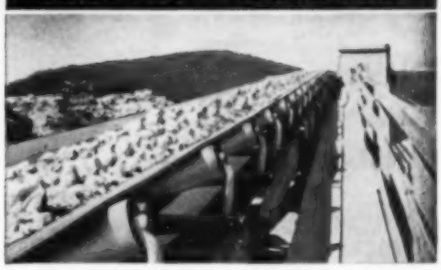
User provides indicator

Five sizes in the company's new design of Pistol-type bore gage are designed for use at machines where space is limited. The gaging head is the company's standard design which includes three-point alignment, two-point gaging with one-piece centralized plungers. Any dial indicator can be specified. Five sizes in the line cover an overall range between 1 and 12 in. in diameter. The smallest is from 1 to 1⅝ inches. The largest is from 6 to 12 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2285 if you write the maker

BELTING BUILT FOR THE TOUGH JOBS



HEWITT ROBINS Belting Lasts Longer . . . Costs Less!

When trouble comes by the ton, the easiest, most dependable, most economical way to move it is on a Hewitt-Robins conveyor belt.

Today engineers the world over instinctively specify Maltese Cross* where the going is really tough, Ajax* for general service, and Conservo* for light work and portable conveyors.

For Hewitt Rubber belting is protected against moisture, oils, flexing, and ply-separation. Maximum strength plus flexibility are assured through extra-tough rubber covers, heavily textile-reinforced.

For details on belting—or for entire belt conveyor systems—write Hewitt Rubber Division, Buffalo 5, N. Y.

HEWITT-ROBINS CONVEYOR BELTING

HEWITT-ROBINS INCORPORATED

BREVITY—Identify by IEN - 2286 if you write the maker

Our versatile and very popular Model PA Wrapping Machine

With modern packaging methods *NEW SAVINGS ARE YOURS*

Today, it is essential to economize wherever you can do so without sacrificing quality. With this goal in mind, many executives have found that up-to-date packaging equipment often pays for itself in a surprisingly short time. Wrapping material consumption is reduced . . . Operating speeds are greater . . . Labor needs are less. Moreover, our machines handle all modern wrapping materials — greatly improve package appearance and sales appeal.

With over 80 different models, the Package Machinery Company can supply a machine for virtually any type of product. For all the facts, contact our nearest office.

• WRAPPING DIVISION •

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS DENVER LOS ANGELES
SAN FRANCISCO SEATTLE VANCOUVER WASH. TORONTO MEXICO, D.F.

BREVITY—Identify by IEN - 2287 if you write the maker

VITROHM Fixed Resistors 5 to 200 watts.

ADJUSTOHM Adjustable Resistors 10 to 200 watts.

STRIPOHM Resistors for use where space is limited.

HOW FAST DO YOU NEED RESISTORS IN YOUR OPERATING PICTURE?

Quick delivery on VITROHM Wire-Wound Resistors can be made to you on stock values and sizes.

While we realize it is not always practical to use a stock size resistor, and that circuit requirements, as well as space limitations, must be considered, we recommend that you explore the possibility of aligning your tubular resistor requirements with our stock sizes, resistance values, watt ratings, and terminal arrangements.

Complete dimensional data on VITROHM Wire-Wound Resistors is given in our catalog.

Write for Bulletin D-150. WARD LEONARD ELECTRIC CO., 33 South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.

Result-Engineered Controls Since 1892

RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

BREVITY—Identify by IEN - 2288 if you write the maker

THIS FILE IS NOT Confidential

use it to

WAGE WAR ON WASTE

Yours for the asking in this wealth of valuable lighting information:

1. **CHAMPION'S PLANNED CLEANING PROGRAM**—designed to restore and maintain normal lighting efficiency and economy, year in and year out.
2. **CHAMPION'S FLUORESCENT LAMP GROUP REPLACEMENT PLAN**—engineered for the systematic replacement of lamps without interrupting Productivity. Saves an average of 40% in labor time, labor costs alone.
3. **CHAMPION'S INCANDESCENT LAMP GROUP REPLACEMENT PLAN**—worked out to give you all the advantages of the Fluorescent "GR" plan, with even greater savings.

All 3 Plans, complete with formulas, charts and practical examples, may be conveniently filed for permanent reference in Champion's "War on Waste" Folder. It is offered without cost or obligation to lighting engineers and maintenance men in factories and offices, etc.

CHAMPION LAMP WORKS
Lynn, Massachusetts
A DIVISION OF CONSOLIDATED ELECTRICAL DISTRIBUTORS, INC.

BREVITY—Identify by IEN - 2289 If you write the maker

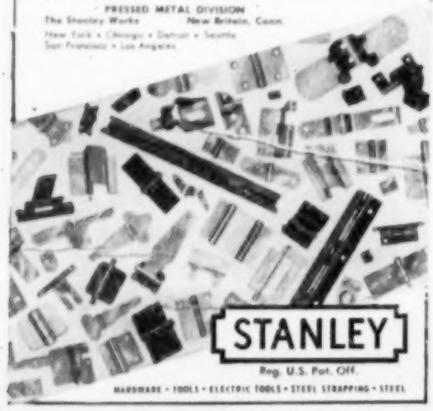
Defense Contracts Call for Hinges? Call on STANLEY...

You just specify the hinge you want—Stanley does the rest, from first sketch to finished product.

Stanley gives you the advantage of expert designers and production engineers—complete research and tool making facilities—the particular plating and finish best suited to your needs.

As the world's largest producer of hinges, Stanley is geared for efficient production to meet your D. O. deadlines. Write for full information—not only on special hinges, but drawings and stampings as well—now!

PRESSED METAL DIVISION
The Stanley Works New Britain, Conn.
New York • Chicago • Detroit • Seattle
San Francisco • Los Angeles



STANLEY
Reg. U.S. Pat. Off.
HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

BREVITY—Identify by IEN - 2290 If you write the maker

Send for Free Sample of KEY-TITE...

THE LEAK-PROOF SEALER FOR GASKET AND PIPE JOINT CONNECTIONS!

Sealing with Key-Tite will prevent leaks on all lines carrying water, gas, low pressure steam, compressed air, etc. It will not affect the color or taste of potable liquids so consequently can be used freely on piping and equipment where food or beverages are prepared for human consumption.

See for yourself! Send for liberal free sample to be tested in your own plant.

KEY Company
2661 McCausland Ave., East St. Louis, Ill.

KEY COMPANY, 2661 McCausland Ave., East St. Louis, Ill.
Gentlemen: Please forward free sample of Key-Tite Waterproof Sealing Compound.
Company Name .....
Address .....
Individual .....
Position .....

BREVITY—Identify by IEN - 2291 If you write the maker

No Floor Damage!

WHEN YOU MOUNT YOUR MACHINES ON

UNISORB®

UNISORB - Mounting requires no bolts . . . no lag screws . . . no old-fashioned, destructive floor drilling. A special cement (we supply it) binds the UNISORB pads to machine feet and floor with a holding strength of 1500 p. s. i. *minimum!* What's more, UNISORB absorbs from 60% to 85% of transmitted machine vibration and noise . . . saves floors, buildings, machinery . . . often permits higher machine speed. Today, write for your free copy of "Why It Pays To Anchor Your Machines with UNISORB."

The FELTERS Company
210-I SOUTH STREET
BOSTON 11, MASS.

BREVITY—Identify by IEN - 2292 If you write the maker

PYROMETER . . Multi-point indicator serves 96 separate thermocouples

Source: MINNEAPOLIS-HONEYWELL REGULATOR CO.
4456 Wayne Ave., Philadelphia 44, Pa.

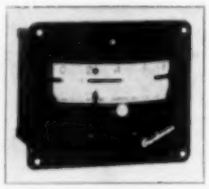
One reading per second

An operator seated at this new desk assembly of the company's ElectroniK temperature indicator manipulates a bank of key switches or pushbuttons. They close the circuits one at a time to a maximum of 96 thermocouples located remotely at points in a process installation. The desk centralizes collection of the temperature data, makes it unnecessary to walk considerable distances.

BREVITY—Identify by IEN - 2293 If you write the maker

CONTROL . . Electronic instrument holds temperature at adjustable point

Source: TACO WEST CORP.
515 N. Noble St., Chicago 22, Ill.



About $185

Model JP is new design in the Gardsman line, previously described IEN-565-51. It holds desired temperature at injection molding machines and in production processes by adjusting the ratio of power "on" and "off" over a given time cycle. It anticipates and corrects for thermal inertia to prevent over-shooting. It is available in 36 standard scales and thermocouple ranges for operation on 110 or 220-volt 60-cycle ac.

BREVITY—Identify by IEN - 2294 If you write the maker

CONNECTOR . . Slip ring assembly, sub-miniature size, is heat resistant

Source: NAER CORP.
629-33 S. Sepulveda Blvd., West Los Angeles 49, Calif.

A product component

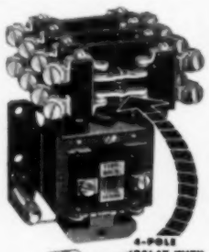
Contact rings made of silver, gold or platinum are mounted on a plastic body and are connected through one end with Formex magnet wire to provide a new line of sub-miniature slip rings. They complete electric circuits between stationary and moving parts as in miniature motors, syncro generators and transformers.

The plastic is a special compound with tensile strength at 4,000 to 4,500 lb. per sq. in. and flexural strength of 6,000 to 6,500 pounds. Hardness is 27 on the Rockwell M scale.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2295 If you write the maker

Bulletin 700 UNIVERSAL SOLENOID RELAY



4-POLE RELAY WITH UNIVERSAL CONTACTS

Change from NORMALLY OPEN Contacts to NORMALLY CLOSED Contacts by Simply Shifting Connections

The Allen-Bradley Bulletin 700 universal solenoid relays are a new idea in relay design. The new dual contact arrangement permits quick change from normally open contacts to normally closed contacts by simply shifting connections . . . a simple and easy operation. Only ONE moving part. Rating of 10 amperes at voltages up to 600 volts. Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY
QUALITY
MOTOR CONTROL

BREVITY—Identify by IEN - 2296 If you write the maker

Tape holds 18 times the force of gravity

Polyken Tape No. 276, a specially engineered glass fibre tape, can resist a pull of 14,500 pound-seconds to hold JATO (Jet Assisted Take-Off) units together under terrific thrust. Today tapes do things you never thought tape could do. There are Polyken Tapes for every industrial and electrical use—to save you time, trouble and money. Write for free samples and folder, "Tape is a Tool." 222 W. Adams St., Chicago 6, Ill.

THE NEW
Polyken®
INDUSTRIAL TAPES

Polyken Industrial Tape, Department of Bauer & Black, Division of The Kendall Company

BREVITY—Identify by IEN - 2297 If you write the maker

MORE SOLD THAN ANY OTHERS
Write for Catalog
OF USES AND SPECIFICATIONS

GENERAL Industrial Pneumatic Tires

..SAVE TIME·LABOR·MONEY

Protect equipment and floors • Reduce Breakage

- ★ Wide Base Wheel
- ★ More Air Volume
- ★ More Stability
- ★ More Load Capacity
- ★ Longer Miles in Hi-Speed Service

Available separately or in assemblies of Tires, Tubes and Wheels. Size O. D. 8" to 27"—200 to 4000 lbs. cap. for low and high speeds.

THE GENERAL TIRE

Rigid CASTER FORKS *Swivel*

Wide-base caster forks engineered to carry heaviet loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

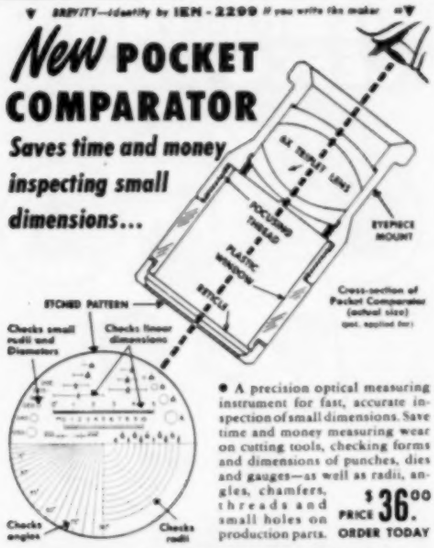
Send for Catalog • Dept. 3

THE GENERAL TIRE & RUBBER CO. AKRON, OHIO

BREVITY—identify by IEN - 2299 if you write the maker

New POCKET COMPARATOR

Saves time and money inspecting small dimensions...



Cross-section of Pocket Comparator (actual size) (pat. applied for)

● A precision optical measuring instrument for fast, accurate inspection of small dimensions. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as radii, angles, chamfers, threads and small holes on production parts.

PRICE $36.00 ORDER TODAY

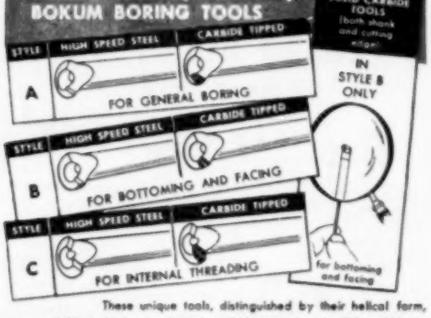
a product of BELL & HOWELL CO. distributed by

Write for FREE descriptive folder

NATIONAL TOOL CO.
11220 Madison Avenue · Cleveland 2, Ohio

BREVITY—identify by IEN - 2300 if you write the maker

You'll find the answer to practically every boring problem right here in this most complete line of BOKUM BORING TOOLS



These unique tools, distinguished by their helical form, are available in high speed steel, carbide-tipped and solid carbide in three styles: A (for general boring), B (for bottoming and facing) and C (for internal threading)—in a wide range of sizes from 1/16" dia. up.

Bokum is always ready to help you with your boring problems.

In addition, there are many accessories here to make applications of Bokum Boring Tools most efficient.

Send for catalog sheets for detailed information about these various tools.

See our Booth No. 121 at ASTE show.

BOKUM TOOL CO.
SINGLE POINT BORING TOOLS · INTERNAL THREADING, BOTTOMING AND FACING TOOLS · CARBIDE TIPPED TOOLS
DEPT. N • 14775 WILDEMERE AVE. • DETROIT 21, MICH.

BREVITY—identify by IEN - 2301 if you write the maker

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

SHAF-TITE* ROLLS

Minimum sizes 3" diameter and 3" face length

Patented constructions provide strongest possible shaft setting. Take your choice of many different types and materials—wood, rubber, iron, brass, stainless steel, etc. Whatever your roll problem, put it up to

RODNEY HUNT

Send For Catalog Today!
Industrial Roll Division
RODNEY HUNT MACHINE CO.
673 Main Street, Orange
Massachusetts, U.S.A.

*Reg. U. S. Pat. Off.

BREVITY—identify by IEN - 2302 if you write the maker

TESTING . . Hydraulic machine for tension, compression, rates 60 ton

Source: BALDWIN-LIMA-HAMILTON CORP.
Paschall Post Office, Philadelphia 42, Pa.

Isolates recoil

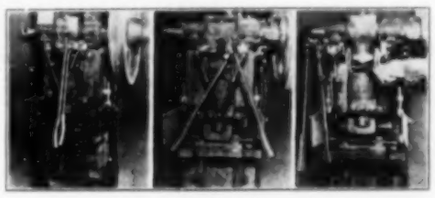
Power stroke measuring 6 in., loading speed infinitely variable to a maximum of 2 ipm., vertical distance between the gripping heads or between the platens for compression at 1 in. to 24 in. characterize this new Model 12-H machine. It employs two-column design with 15 in. of clear space between the columns. Load in either tension or compression is applied upward by a piston and elevating cage consisting of the table, two uprights and the upper gripping head. The drive provides an adjustment range of 20 in. for the entire cage. Push buttons actuate the operation.

Two ranges are provided on 16-in. bourdon gages on the control and indicating housing. These ranges are standard at minimums of 30,000 and 120,000 pounds. Any two of six other ranges, maximum between 6,000 and 60,000 lb., can be specified. Floor space for the two units as shown in the illustration measures 74 by 31 inches.

BREVITY—identify by IEN - 2303 if you write the maker

PROTECTING . . Hinged press guard keeps operator's hands out of danger

Source: SEARJEANT METAL PRODUCTS, INC.
Box 79, Meadon, N. Y.



Easy does it

Double-arm design of this new sweep-type press guard cuts in half the speed required for a single arm to travel across the face of a press when the clutch is tripped. Impact is virtually eliminated when the guard contacts a worker's arms or hands to clear them from the danger area. The guard is mounted on a hinged bar that can be swung to one side when dies are being changed and press adjustments are being made. Both of the arms suspend vertically in front of the center of the press, one arm in front of the other, when the ram is in "up" position.

The guard can be equipped with a reset counter to record downward strokes from the ram. The counter will not operate unless the guard does also as a means to assure its use. A non-repeat device and end-zone guards are available.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2304 if you write the maker

STEEL DIES

For economical marking of names, trademarks, patent numbers, etc. on parts with flat, concave or convex surfaces, use Matthews Steel Marking Dies.

Matthews precision dies are designed and engineered to fit your present stamping equipment.

WRITE FOR COMPLETE INFORMATION

Send a sample product or drawing showing complete specifications . . . we'll forward prompt recommendations and literature.

JAS. H. MATTHEWS & CO.
3948 FORBES ST. • PITTSBURGH 13, PA.
NEW YORK • BOSTON • PHILADELPHIA
CHICAGO • CLIFTON N. J.

BREVITY—identify by IEN - 2305 if you write the maker

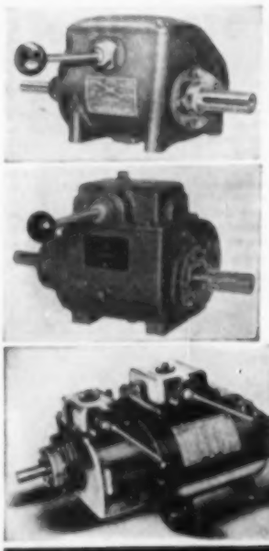


plate or platform mounting

9000-B (1-5 H. P.) 5 H. P. capacity with input speed of 900 r. p. m. **Gear ratios:** 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.

8100-B (5-10 H. P.) 10 H. P. capacity with input speed of 900 r. p. m. **Gear ratios:** 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.

9300 (30 H. P. capacity with input speed of 900 r. p. m.) 8 speed Changes in Geometric Progression of 1.29. (Total reduction of 6:1).

Send for catalog and complete information.

up to 50 h. p.
WESTERN TRANSMISSIONS
WESTERN MANUFACTURING CO. · NEW YORK · DETROIT · MILWAUKEE

BREVITY—identify by IEN - 2306 if you write the maker

More of industry's tough jobs go to YALE because...

EXCLUSIVE Features Equip YALE Electric Trucks For 'round-the-clock service

BECAUSE YALE Electric Trucks pay their way *better* by working *harder*—they're the first choice of users who want the *most* for their truck dollars. To discover how a YALE Electric Truck investment can accumulate *extra* handling savings for you—fill out and mail this coupon today.

YALE is a registered trade mark of The Yale & Towne Mfg. Co.

- **EXCLUSIVE YALE** Hypoid Gears have more tooth surface for longer wear, greater shock resistance. They're completely enclosed in one oil-sealed unit.
- **EXCLUSIVE YALE** Involute Spline Drive Shaft resists fracture from wear fatigue—outlasts all others.
- **EXCLUSIVE YALE** Lift Channels are specially rolled for extra strength. Ball bearing rollers reduce channel wear, cut battery drain due to friction.
- **EASY ACCESSIBILITY** to battery permits rapid battery changes for recharging.

YALE & TOWNE

The Yale & Towne Manufacturing Co., Dept. 363
Roosevelt Boulevard & Haldeman Ave., Philadelphia 15, Pa.
Please send me your free new data-full bulletin, THE YALE ELECTRIC TRUCK

Company _____
Name _____ Title _____
Street _____
City _____ State _____
In Canada write: The Yale & Towne Mfg. Co., St. Catharines, Ont.

YALE GAS TRUCKS • YALE WORKSAVERS
YALE HAND TRUCKS • YALE HAND AND ELECTRIC HOISTS

▼ BREVITY—identify by IEN - 2308 if you write the maker ▼

Rolling Steel Doors

Manually • Mechanically • Power Operated

No other type of door offers as many desirable features as a good Rolling Steel Door . . . open or closed, they occupy no usable space inside or outside the opening. All-metal construction assures permanence and a lifetime of continuous trouble-free service. Push-button controlled vertical roll-up action provides the quick, timesaving door operation demanded today by all industrial and commercial concerns. When you buy Mahon Rolling Steel Doors you get the latest developments in doors of this type — comparison will convince you. See Sweet's File for complete information, or write for Catalog No. G-52.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

▼ BREVITY—identify by IEN - 2309 if you write the maker ▼

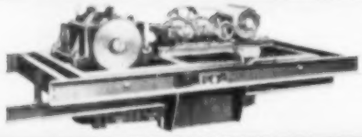
The FIRST Flying Carpet

was "FLOATED" by an Old Caliph in Bagdad

He mentioned it frequently in his famous Tales of the Thousand and One Nights. Since then, air space has been put into use for many mechanical devices.

Not a floating carpet — but a powerful pulling "work-horse" for conveyor systems is the

FLOATING DRIVE with AUTOMATIC CUT-OFF and LOAD INDICATOR



another FIRST by JERVIS B. WEBB COMPANY

For years a standard on Webb Conveyor systems, the patented Floating Caterpillar Drive enables automatic limit switch cut-off in case of jam. Cushions starting load, and has an easily seen calibrated load indicator.

If external forces jam the conveyor, the springs are compressed to a point where the moving frame actuates a limit switch on the fixed frame, stopping the drive instantaneously. As soon as the jam is eliminated, the conveyor may be started immediately by push button. There are no shear pin headaches.

CONVEYOR ENGINEERS AND MANUFACTURERS
JERVIS B. WEBB COMPANY
3910 ALPINE AVE. DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
FACTORIES IN DETROIT . . . LOS ANGELES . . . HAMILTON, ONT.

▼ BREVITY—identify by IEN - 2310 if you write the maker ▼

NEW MOGUL
SOLDERING
AND BRAZING GUN

This new MOGUL unit is built to deposit lead and tin base solders, silver solder and brazing wires in a liquid or semi-liquid form to any constant moving part.

High or Low Speed. Moving part travels at desired speed, as Gun adjusts to your specific application.

Pinpoint Location. Deposits solder or brazing wire to exact spot for clean seam . . . material saving.

Extremely Versatile. Use Gun for constant or intermittent work of any type, regardless of shape, joints, connections, terminals or seams. Seam soldering speeds up to as much as 200 lineal ft. per min.

Saves Time • Saves Solder

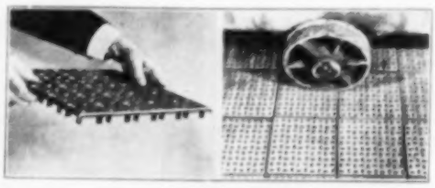
Recent installation of a Mogul Gun afforded a reduction of 75% in labor costs plus appreciable solder savings. Perhaps Mogul can do the same for you. Write today for full information.

METALLIZING COMPANY OF AMERICA
Dept. IEN, 3520 West Carroll Ave., Chicago 24, Ill.

▼ BREVITY—identify by IEN - 2311 if you write the maker ▼

FLOOR . . Steel reinforcing plate for concrete floor under heavy traffic

Source: ACME STEEL CO.
2854 Archer Ave., Chicago 8, Ill.



In cartons of 20

Hot-rolled steel is pierced and formed as shown in the illustration to produce a new 11¾-in. plate. The steel is 0.068-in. gage and contains rectangular openings measuring ½ by ⅝ inch. The pieces cut out of the holes project down ⅝ in. from the bottom face. Edges are flanged for additional anchorage in the concrete and for stiffness. Plates are laid flush in a new floor or in a surfacing layer of concrete over an old floor to resist wear.

▼ BREVITY—identify by IEN - 2312 if you write the maker ▼

PAINTING . . Ready mixed liquid for interior walls, dries in an hour

Source: SHERWIN-WILLIAMS CO.
103 Prospect Ave. S. W., Cleveland 1, Ohio

Ask for copy of Quali-Kote brochure

Quali-Kote is a new interior wall paint available in 16 colors and white in ready-to-use form. It dries to a velvet finish, tough and washable. Application can be made over any type of interior wall surface without primer or sealer.

▼ BREVITY—identify by IEN - 2313 if you write the maker ▼

SHEARING . . Motor driven machine reciprocates cutter bit at high speed

Source: AMERICAN PULLMAX CO.
2453-57 No. Sheffield Ave., Chicago 14, Ill.

Generous clearance

Trimmer is new design in the company's line of shearing machines, previously described IEN-11040-51. It is designed particularly to cut excess metal from deep-drawn and bulky stampings. It rates mild steel to 5/32 in. at a feed speed of 4 to 16 ft. per minute. Throat clearance is 48 in. in the circular frame.

The lower tool holder is raised and lowered by pneumatic pressure for insertion of bulky work. The bars shown in the illustration to hold circle and straight cutting attachments are removable when the machine is employed for the trimming operation. Drive is by a 1-hp. motor.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 2314 if you write the maker ▼

A PAID NEWS ADVERTISEMENT BY REMINGTON RAND INC.

"Take a Letter"...

Booklet describes how the Remington Electri-conomy Typewriter slashes typing costs . . . increases typing production . . . provides letters of distinction.

Read how you can cut office typing costs and increase typing output anywhere from 10 to 50% with the new Remington Electri-conomy Typewriter . . . the typewriter that turns out superb, distinctive letters, and clear, legible multiple copies of reports with less effort.

Based on testimonials and reports obtained from some of the country's largest, most important companies, "Take A Letter" contains illustrations and information of interest to executives in every business, large or small . . . and it's condensed into 4 pages for quick and easy reading. A copy of this booklet may be obtained by writing the publisher, Remington Rand, Room 2502, 315 Fourth Ave., New York 10, N. Y. or by using the Reader Service Form herein.

REMINGTON RAND INC.
Business Machines and Supplies Division, Room 2502
315 Fourth Avenue, New York 10, N. Y.

▼ BREVITY—identify by IEN - 2315 if you write the maker ▼

CESCO RIGHT... before your Eyes!

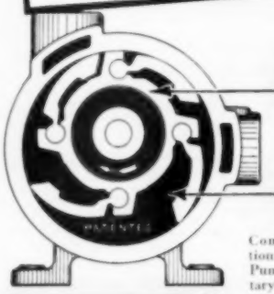
CHICAGO EYE SHIELD COMPANY • 3326 Warren Blvd. • Chicago 12, Ill.

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, D. F., Milwaukee, Montreal, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

▼ BREVITY—identify by IEN - 2316 if you write the maker ▼

LEIMAN AIR PUMPS GIVE YOU Greater Capacity!



SMALLER PISTONS *provide* **LARGER AIR SPACE**

HINGED WINGS *take up their own wear*

Compare this cross-section of a Leiman Air Pump with any other rotary air pump. It is the working air space that counts—and Leiman provides 2 to 3 times more area, per size and weight of pump.

Handle air pressure, vacuum or suction jobs with much smaller Leiman Rotary Air Pumps. You save weight and space—run at lower r.p.m.—have fewer moving parts—no springs, gaskets or packings—no tips to renew—nothing to give trouble. Leiman patented leak-proof hinged wings maintain fully-rated pressure or vacuum for years and years.

What is your air application?

Send us details. Leiman engineers offer over 60 years' experience with thousands of air applications.

Catalog and Application Data sent on request

For Pumps—write DEPT. A

LEIMAN *Rotary* **AIR PUMPS** (Pressure—Vacuum)

Metal Cleaning and Finishing
without acids or scratch brushes
Fast, low-cost, safe, uniform!

LEIMAN SANDBLASTS

Clean up scaly, rusty, rough surfaces—prepare better surface for plating, enameling or painting—stencil letters and designs—more rapid matte or satin finishes. Use unskilled help. Many models, treadle or automatic.

For Sandblasts—write DEPT. B

LEIMAN BROS., Inc. 166 Christie Street Newark 5, N. J.

AIR PUMPS • AIR MOTORS • SAND BLASTS • DUST COLLECTORS

BREVITY—Identify by IEN - 2318 if you write the maker

FLAT SPRING STEEL

PROMPT DELIVERY!

Roebling's expanded facilities can meet your needs right now!

NOW YOU CAN GET fast deliveries of Roebling high carbon flat mechanical spring steel — expanded facilities have boosted production to new highs. And Roebling flat spring steel comes as you want it — annealed, hard rolled untempered, scaleless tempered; tempered and polished, blued or strawed. Uniform quality saves preparation time for users; brings faster, smoother production . . . Write for full information. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

BREVITY—Identify by IEN - 2319 if you write the maker

Timely Facts and Features You'll Find in the NEOPRENE NOTEBOOK

- how you can reduce maintenance costs
- ways to solve many production problems
- new ideas on neoprene's wide range of uses
- technical help in specific applications
- details of new improvements in old products
- interesting new neoprene products

YOU'LL FIND PROFITABLE READING in every issue of the Neoprene Notebook. Each issue is packed from cover to cover with new ideas to save you time, trouble, and money. Put your name on our mailing list. Subscriptions are FREE.

Clip this coupon and mail it today.

E. I. DU PONT DE NEMOURS & CO. (INC.)
Rubber Chemicals Division, D-3,
Wilmington 98, Delaware
Please send me free issues of the Neoprene Notebook.

Name_____
Position_____
Firm_____
Address_____

NEOPRENE
The rubber made by Du Pont since 1932
DU PONT
BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

BREVITY—Identify by IEN - 2321 if you write the maker

SWITCH . . DC. contactor in NEMA ratings from 5 to 2,500 amps.

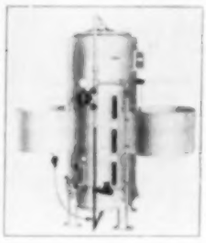
Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., Dept. IEN, Rm. 1110, Pittsburgh 30, Pa.

Access is from the front in this new Type-H heavy-duty steel-mill dc. contactor. Contacts and shunts can be replaced without removal of the other parts. Operating coils can be removed after taking out three bolts. The contacts operate in self-cleaning action on knife-edge bearings so dust is not a factor. A new type of arc box assures fast arc interruption. Electrical interlocks are mounted directly on the contactor frame.

BREVITY—Identify by IEN - 2322 if you write the maker

WATER TREATING . . Demineralizer for flow rate ranging to 5,000 gph.

Source: PENFIELD MFG. CO.
17-21 High School Ave., Meriden, Conn.



Cation and anion exchangers are mixed in a single tank to provide the equivalent of a large number of multiple beds in this new Mono-Bed demineralizing equipment. Raw water passes once through the bed column to come out with mineral content essentially at zero. An assembly rating 500 gph. occupies a 2 by 5-ft. floor space and stands 5 ft. in height. Operating weight is about 1,400 lb. for this new unit.

BREVITY—Identify by IEN - 2323 if you write the maker

PROCESSING . . Gas fired kettle for food preparation, made of aluminum

Source: ALUMINUM COOKING UTENSIL CO.
51 Wear-Ever Bldg., Dept. WEN-8, New Kensington, Pa.

New kettle for use in plant restaurants is made of aluminum and is fitted with a one-piece hinged cover. It is available with either of two types of removable inside container, one with a smooth rounded bottom, the other with a tangent draw-off and a valve.

Heat is supplied by Pyrastove burners that can be turned down to as low as 10 per cent of maximum rate without danger of flash-back.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2324 if you write the maker

Solve Your Glove Problems Boost Production

PIONEER
Stanzoils®

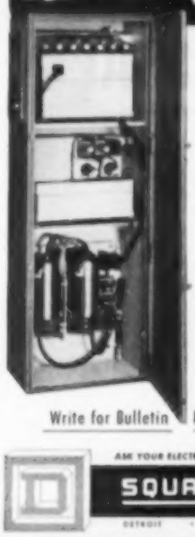
R-58 Hot 'n Cold Glove, twin lined insulating, 12" gauntlet, red Du Pont neoprene. Comfort in extremes from −65° to +314°F.

Your choice of the right glove for each job can mean faster work, more production, better protection for your workers *and* lowest per hour glove cost. No one glove is right for every job! PIONEER's new Stanzoil catalog shows you how to choose the right glove for each job. *Unbiased advice — Stanzoils include all kinds of liquidtight gloves:* all-neoprene, neoprene, and vinyl-coated. 52 styles, weights, sizes. It pays you to select gloves scientifically. Write for your Stanzoil catalog today.

Industrial Products Division
The PIONEER Rubber Company
635 Tiffin Road • Willard, Ohio
STANZOIL PIONEER
OVER 30 Years OF QUALITY GLOVE MAKING

BREVITY—Identify by IEN - 2325 if you write the maker

Simplified Precision Welder Control



- Greatly Simplified Circuits
- Timing Accuracy Assured
- Easy Inspection and Maintenance

APPLICATION: for welding stainless steel, nonferrous metals, and other critical spot welding jobs requiring electronic synchronous-precision control. (Available with current wave shape control auxiliaries for aluminum or alloy metals.)

at left • Class 8993 NEMA Type 52H Synchronous-Precision Controller available with 600 or 1200 frame contactor. Can be arranged either for side of machine or wall mounting.

Write for Bulletin 8993 Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

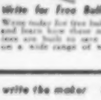
SQUARE D COMPANY
DETROIT • MILWAUKEE • LOS ANGELES

BREVITY—Identify by IEN - 2326 if you write the maker

PINES END-FINISHING MACHINES

Handle broad ranges of rod, tube, and pipe end-finishing work with speed and precision. Exclusive chuck feature clamps and feeds work to centers in one motion. Operator always has one hand free for stock handling. Designed with quick interchangeable tool holders and chuck inserts. 8-speed sheave — 700 to 3920 r.p.m., hardened and ground spindle, grease-sealed precision bearings. Automatic swing-type stock stop assures fast, accurate positioning. Entire unit is portable, takes up small space, handles stock diameters up to 2". Max. feed is 1¼". Larger sizes up to 5" capacity available. **Typical production:** 800 tube ends per hour.

(Above) Pines 2" High Production End Finishing Machine equipped with foot-controlled air operating cylinder. Clamp, feed and return cycle is automatic. Operator has both hands free for stock handling. Supplied similar to hand operated unit.

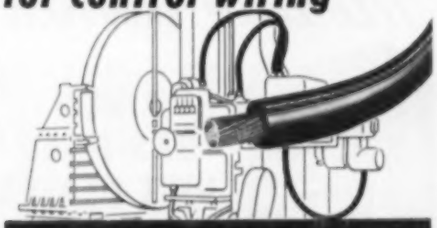


Write for Free Bulletin
Write today for free bulletin and learn how these machines can built to save time on a wide range of work.

PINES ENGINEERING CO., Inc.
Specialists in Tube Fabricating Equipment
630 WALNUT • AURORA, ILLINOIS

BREVITY—Identify by IEN - 2327 if you write the maker

for control wiring



...OKOLITE-OKOPRENE

Keep your electrical circuits *strong*, free from weak spots which may disrupt production. On control wiring and throughout your plant circuits, specify Okolite-Okoprene wires and cables. Here's why:

Moisture resistant Okolite Insulation is designed for continuous power loads, three shifts per day, year after year.

Flame resistant Okoprene Sheath protects against abrasion, heat, mechanical damage, oils and acids.

Insulation and sheath are applied by Okonite's strip process and vulcanized in a metal mold, giving greater stability and longer life to both. Write for Bulletin IE-1053, The Okonite Company, Passaic, N. J.

The best cable is your best policy
OKONITE *insulated wires and cables*

BREVITY—Identify by IEN - 2328 if you write the maker

Eliminate Shaft Leakage with SYNTRON

SHAFT SEALS

SEAL IN GASES AND LIQUIDS

Self-contained, self-lubricating, easy-to-install units that provide fully automatic sealing action . . on pumps, compressors, engines, turbines, mixers, propeller shafts, etc.

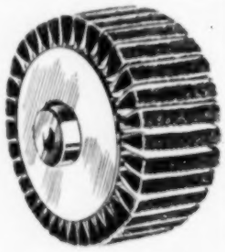
Standard seals eliminate leakage of air, water, gases, petroleum products, etc., and withstand temperatures from 10°F. to 200°F. and pressures to 250 psi. Special seals for corrosive and abrasive liquids.

Write for Descriptive Folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—Identify by IEN - 2329 if you write the maker

THIS MAY BE THE ANSWER TO YOUR FINISHING PROBLEM!

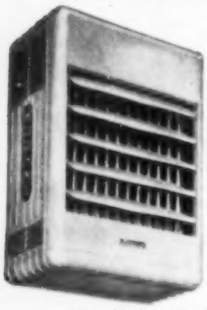


We say this because the Vonnegut Brush-Backed Polishing Head is designed especially for polishing curved and formed surfaces . . . and because it is an excellent deburring tool. It is used directly on die casting metals, aluminum, brass, bronze and steel — but it is equally efficient for removing bubbles and other blemishes and feathering out such areas on enamelled or painted surfaces. Its basic versatility is enhanced by a wide choice in grade and grit of abrasive loadings. It's a unique device available in two models, for portable tools or fixed spindle operation. Write for the Vonnegut Polishing Head bulletins.

VONNEGUT MOULDER CORPORATION
1827 MADISON AVENUE • INDIANAPOLIS 25, INDIANA

BREVITY—Identify by IEN - 2330 if you write the maker

Modine ANNOUNCES



A NEW GAS-FIRED UNIT HEATER

With less weight and bulk, better heating performance, longer life expectancy

New Modine Gas-Fired Unit Heater has corrosion-resistant stainless steel heat exchanger and burners that give longer life . . . cut weight as much as 65% . . . speed response to thermostatic control. Individually fired tubes promote more effective and uniform flame-to-surface heat transfer. A.G.A. and C.G.A. approved for Natural, Manufactured, Mixed, LP, LP-Air gases. Fully automatic regulator safety devices pre-set at factory for gas to be used.

GET NEW BULLETIN 651. Modine Gas-Fired Unit Heaters. Call the Modine representative listed in your phone book. Or write Modine Mfg. Co., 1503 DeKoven Ave., Racine, Wis.

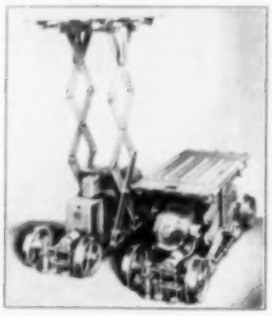
GU-1147

Modine UNIT HEATERS

BREVITY—Identify by IEN - 2331 if you write the maker

ELEVATOR . . Wheel equipped unit rides track from storage to machines

Source: HAMILTON TOOL CO.
905 Hanover St., Hamilton, Ohio



Special assembly of the company's Portelvator employs a roller-equipped load platform mounted on a pivoted-arm lift structure for power operation by a 1-hp. motor with worm and screw connection. Mounting is on a flanged-wheel base to ride a track. Foot controls provide for lift and lower action.

The platform measures 24 by 36 inches. Vertical movement at 40 ipm. is between 24 and 64 in. above the floor. Load rating is 600 pounds.

BREVITY—Identify by IEN - 2332 if you write the maker

CLEANING . . Soluble crystals for general maintenance application

Source: ROSS & STORY PRODUCTS CORP.
703-9 Dewitt St., Syracuse 3, N. Y.

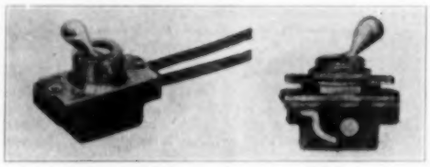
Single drum lists at $34.50

Gummy soil and embedded dirt emulsify quickly when they are wiped with a solution of the new Wall-Klean Krystals material. The solution is not abrasive and can be employed by wiping on wood, tile, linoleum, metal, concrete. A pound of crystals will make 16 gal. of solution. Rubber gloves are not needed. Packaging is in 50-lb. drums, 24-lb. trial containers.

BREVITY—Identify by IEN - 2333 if you write the maker

SWITCH . . Toggle design for appliances, 6 amp. at 125 volt ac.

Source: SLATER ELECTRIC & MFG. CO.
37th Ave. & 56th St., Woodside 77, N. Y.



Approved by Underwriters' Laboratories

Slater 170 is a new single-pole, single-throw assembly available as a single-throw toggle switch or a momentary-contact switch with rating at 6 amp. on 125-volt ac, or 3 amp. on 250 volts. Overall dimensions are 1¼ by ½ by ½ inch. Mounting sleeves range in length from ¼ to 15/16 inches. The toggle handle comes in a variety of lengths and ball or bat design.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2334 if you write the maker

magic pivot Does It!

$ for $ and lb. for lb.
NEW MAXAW 70
Cuts deeper at 45°

Only $69.50
Heavy-Duty All Ball and Roller Bearing MAXAW 70

Now you get a heavy-duty, industrial saw that weighs only 10 lbs., uses a 6 3/8" blade, and cuts 1 7/8" at 45° . . . something no other industrial saw with a blade up to 7 1/4" will do. magic pivot makes this possible. Yes, the simple but long-overlooked engineering achievement of putting the pivot point closer to the saw shaft brings you this matchless performance found only in magic pivot MAXAWS. In addition, hard-hitting "stub-radius" blades stand 3 to 4 more sharpenings and still keep their 45° cutting capacity . . . last twice as long. The MAXAW does more work . . . faster work . . . and costs less.

Free Phamphlet — Find out what magic pivot can do for you. Get the complete story. Simply drop a card to CUMMINS-CHICAGO CORP. today.

Cummins Portable Tools
DIVISION OF
Cummins-Chicago Corp.
4740 N. Ravenswood Ave. • Chicago 40, Ill.

BREVITY—Identify by IEN - 2335 if you write the maker

Nutting FLOOR TRUCKS WHEELS CASTERS

Here are two veterans of the Nutting line—proven resourceful and tough for faster material handling. These easy rolling, well balanced trucks get the job done right—on time! Your men will like to work them — and their cost per year is hardly visible.

Fig. 16—No. 24
Steel-bound hardwood frame, extra heavy axle.

Fig. 1136
Non-Tilting Bar Handle Truck
Capacity 2500-3000 lbs. A proven veteran for all-round service. Pressure-lubricated roller bearing wheels. Range of sizes.

Write for Junior Catalog 52-G

Nutting makes everything in floor trucks, wheels, casters. Representatives in principal cities.

See your classified telephone directory or write direct to

SINCE 1891 Nutting TRUCK AND CASTER CO.
2013 DIVISION ST. • FARIBAULT, MINN.

BREVITY—Identify by IEN - 2336 if you write the maker

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door . . . models for various purposes.

SOLD AT A LOW COST

...and the cost is especially low because it pays for itself many times...saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

Be sure to write for illustrated literature and prices

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

BREVITY—Identify by IEN - 2338 if you write the maker

Everyone Can Count on VEEDER-ROOT

Military reconnaissance men know the value of the "intelligence reports" faithfully rendered by these Veeder-Root Distance and Topography Counters. And other men, who have to do the close figuring in other arms of the service, they too count on Veeder-Root Counters in more ways than you could shake a "slip-stick" at.

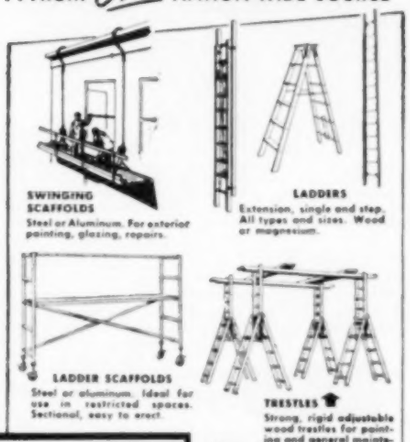
Now if we can help *you* to help these men, by figuring out some new and unusual application of Veeder-Root *Countrol* in defense production, then you can count us at your service.

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONN.

BREVITY—Identify by IEN - 2339 if you write the maker

Select the Ladder or Scaffold *Best* for YOUR Job!

... FROM *One* NATION-WIDE SOURCE



SWINGING SCAFFOLDS
Steel or Aluminum. For exterior painting, glazing, repairs.

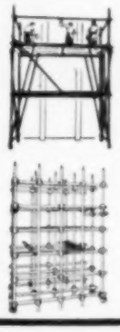
LADDERS
Extension, single and step. All types and sizes. Wood or magnesium.

LADDER SCAFFOLDS
Steel or aluminum. Ideal for use in restricted spaces. Sectional, easy to erect.

TRESTLES
Strong, rigid adjustable wood trestles for painting and general maintenance. Selected stock.

ALUMINUM ROLLING SCAFFOLDS
Sectional, frame-type for general maintenance. Sectional steel rolling scaffolds, also available.

"TUBE LOX" tubular scaffolding
(Steel or Aluminum)
Four basic individual parts quickly assembled for work stands, storage racks, rolling scaffolds, interior and exterior scaffolding.



● You save time and money and simplify the selection and delivery of top-quality equipment when you specify "Gold Medal" Ladders and Scaffolds. Made of the finest materials by experienced workers — backed by the *oldest* manufacturers of off-the-ground work equipment —quickly available through a nation-wide network of branch offices or distributors.

Write for your free bulletins showing how these and other "Gold Medal" products are used in industrial plants throughout the country.

Ladders and Scaffolds for Any Purpose—Any Place—Any Time

Gold Medal LADDERS SCAFFOLDS — for Greater Safety...Efficiency...Economy
THE PATENT SCAFFOLDING CO., Inc.
35-21 12th Street, Dept. IEN — Long Island City 1, N. Y.
West Coast Plant: 6931 Stanford Ave. — Los Angeles, Calif.

BREVITY—Identify by IEN - 2341 if you write the maker

SWITCH . . Lever operated design, multiple contacts, leaf spring mounted

Source: CIRCUIT CONTROLS CO.
Peoria & 32nd St., Steger, Ill.

Break down rating is 1,000 volts ac.

Model 4, to the left in the illustration, and Model 2 to the right are new designs in the company's lever-operated multiple-contact switch line, previously described IEN-742-51. Both mount silver contacts on nickel-silver leaf springs with contact rating at 3 amp. on 110-volt ac. Applications are for control, communicating, signaling, testing, in which multiple circuits are set for make and break in various combinations. Model 4 is for single-hole mounting in a panel. Model 2 mounts by means of four screws symmetrically arranged.

BREVITY—Identify by IEN - 2342 if you write the maker

FURNITURE . . Steel folding leg in kit with bolts and instructions

Source: INSTITUTIONAL SALES CO.
4930-34 Portico St., Philadelphia 44, Pa.

Tables, platforms, work benches can be assembled for portable application with the aid of this new folding leg. It is made of 1-in. steel tubing with a steel folding brace and attachment bracket. Load capacity is 1,500 pounds. The brace locks in open position to provide rigid top support. Assembly height is 30 in., list is about $9 per set.

BREVITY—Identify by IEN - 2343 if you write the maker

HANDLING . . Plastic tote box molded in one piece, weighs 7 pounds

Source: DURABLE FORMED PRODUCTS INC.
329 Canal St., 5th Floor, New York 13, N. Y.

Almost tub deep

The plastic sheet material from which this new tote box is molded is U. S. Rubber Company's Royalite. The box measures 27 by 23 by 15 inches. It is smooth finish inside and out, has curved corners and is designed to nest in storage without binding. Load capacity is to 175 pounds. The plastic is resistant to attack by most alkalis and solvents. Four colors are available. Packaging is four to a carton.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2344 if you write the maker

Protect outdoor workers

Instant treatment for poisonous snake bites —may be easily carried in shirt pocket. *Tiny, powerful suction pump operates with one hand!* Kit also contains lancet, antiseptic, adhesive compress, tourniquet, shock treatment. Easy-to-follow instructions are permanently mounted inside kit cover.

McDonald
POCKET SIZE
SNAKE BITE KIT

Write for Information and Prices

B. F. McDONALD CO.
Manufacturers & Distributors of Industrial Safety Equipment
5721 WEST 96TH ST., LOS ANGELES 45, CALIF.
Other Offices in San Francisco & Houston.

BREVITY—Identify by IEN - 2345 if you write the maker

Production engineers use "Clear Print" Wood Block Stamp Pads and Opaque Inks for the best clear, sharp, fast drying impressions. To cut down on lost shipments and rejected assemblies because of poor identification, use "Clear Print" for shipping room direction stamps and parts numbers. You are assured of permanently legible markings. Many bright visible colors available.

- For marking on non-porous materials such as:
- WOOD, METAL, GLASS, PLASTIC, RUBBER, PAPER AND MANY OTHERS.

BREVITY—Identify by IEN - 2346 if you write the maker

NEW!

MOUNTED ON HORIZONTAL TANK

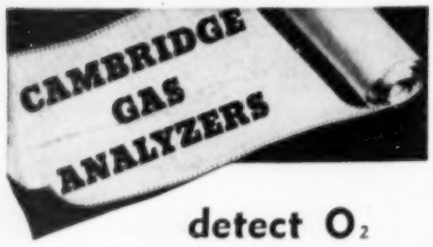
SCHRAMM SMALL INDUSTRIAL COMPRESSORS ARE BUILT IN SIZES RANGING FROM ½ TO 5 H.P., FOR AUTOMOTIVE AND INDUSTRIAL PURPOSES

A SIZE AND TYPE FOR EVERY REQUIREMENT, available with horizontal or vertical tanks. Single stage units for working pressures up to 150 lbs., and two stage units for working pressures up to 200 lbs.

Write for your copy of catalog **GC-52,** *it is free.*

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

BREVITY—identify by IEN - 2348 if you write the maker



detect O_2 in feed water

Continuous records of the oxygen dissolved in boiler feed water and of the hydrogen entrained in steam indicate when corrective measures are necessary to prevent otherwise unsuspected and costly corrosion. Cambridge Analyzers measure and record dissolved oxygen directly. The hydrogen in the steam is measured and indicates the quantity of oxygen set free by dissociation. Cambridge Instruments are available for continuously recording either O_2 or H_2 separately, or O_2 and H_2 simultaneously.

Send for Bulletin 148 B. P.

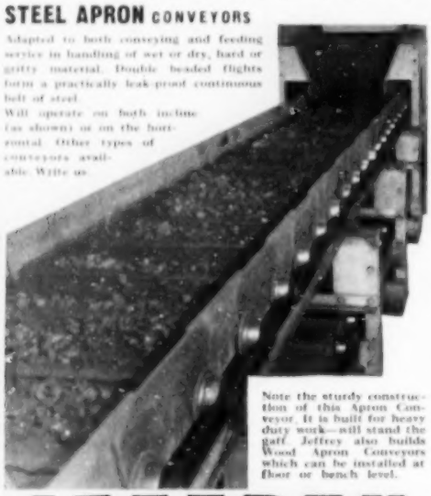
CAMBRIDGE INSTRUMENT CO., INC.
3710 Grand Central Terminal, New York 17, N. Y.

PIONEER MANUFACTURERS OF PRECISION INSTRUMENTS

BREVITY—identify by IEN - 2349 if you write the maker

STEEL APRON CONVEYORS

Adapted to both conveying and feeding service in handling of wet or dry, hard or gritty material. Double beaded flights form a practically leak-proof continuous belt of steel.
Will operate on both incline (as shown) or on the horizontal. Other types of conveyors available. Write us.



Note the sturdy construction of this Apron Conveyor. It is built for heavy duty work—will stand the gaff. Jeffrey also builds Wood Apron Conveyors which can be installed at floor or bench level.

JEFFREY
ESTABLISHED 1877
THE JEFFREY MANUFACTURING CO.
914 Fourth Street, Columbus 16, Ohio

BREVITY—identify by IEN - 2350 if you write the maker

"MY MEN LOVE THAT REMOTE CONTROL! With the hydraulic pump and ram separated by a flexible hose, a man can move around — 'jockey' the pipe with one hand — sight along it if necessary . . . without stopping the pumping.

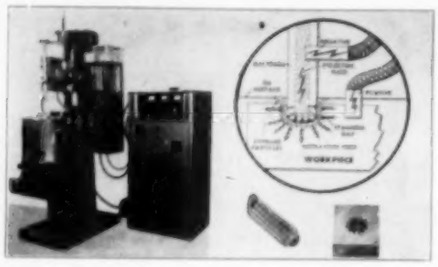
"It's just plain handier, and a Blackhawk costs me nothing extra. Works in any position — on its side or upright — on table or floor — on existing runs. So naturally, I give my men exactly what they want to make their job easier, and cut my own costs on both rigid and thin-wall conduit." Blackhawk Mfg. Co., Dept. P-1532, Milwaukee 1, Wis.

BLACKHAWK
HYDRAULIC *Porta-Power* EQUIPMENT

BREVITY—identify by IEN - 2351 if you write the maker

MACHINING . . Metal disintegrator cuts intricate shapes in hard materials

Source: METHOD X CO.
3115 Forbes St., Dept. 1-B, Pittsburgh 30, Pa.



Ask for copy of lease agreement

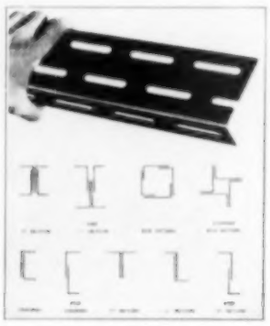
The company announces further development of its metal-disintegrating equipment, previously employed in a contract service to size, drill and thread carbide parts. It is now prepared to supply the equipment on a lease basis to others who desire to do the work themselves.

The operation employs a low-voltage current and reciprocating action of a hollow electrode shaped to the required outline. The electrode strikes and retracts rapidly to draw recurring arcs from the work. A coolant is pumped through the electrode to wash away particles that form as a result of the arcing action. Operation is on 220 volt 60-cycle single-phase ac, with input not exceeding 7 kw.

BREVITY—identify by IEN - 2352 if you write the maker

FABRICATING . . Formed steel angle to build structures for use in plant

Source: ACME STEEL CO.
2854 Archer Ave., Chicago 8, Ill.



Ask for DexAngle booklet

Shop structures such as bins, benches, racks, scaffolding, ladders, tables, partitions, skids, hand rails, motor and equipment mounts can be assembled by combinations of this new galvanized steel Dex-Angle. Manufacture is under license from the English originator for sale in the United States.

The angle is standard at 10 ft. in length and 2 by 1½ by 0.08 in. in section. It carries measuring indentations and elongated perforations at 3 in. intervals. A flanged steel panel measuring 6 by 36 in. and ball-bearing casters are available as components. Packaging is in units of ten angles with 75 bolts and nuts. Panels are in packages of twelve with 24 bolts and nuts. Four casters make a third unit package.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2353 if you write the maker

Illustration shows location of NOPAK Cylinders

"AIR DOGS" *Powered by* NOPAK Cylinders in "UNION" Log Carriage . . .

Specially built by Union Iron Works is this 6 ft. Band Headrig and Log Carriage, equipped with electric setworks and feedworks, installed at the Smith Nielsen Mill, Spalding, Idaho. All of the "Air Dogs", however, are actuated by NOPAK Model "E" Air Cylinders, with Pendulum Mounting for oscillating movement.

This is one of many similar applications of NOPAK Cylinders and Valves, in heavy-duty lumber mill equipment. It may suggest how you can use air power effectively in vital machine movements . . . in your plant, or in equipment you build for your customers.

GALLAND-HENNING MFG. CO., 2760 S. 31st Street, Milwaukee 46, Wis.

Write for Bulletin SW-1, or refer to Sweet's File for Product Designers.

•

Representatives in Principal Cities

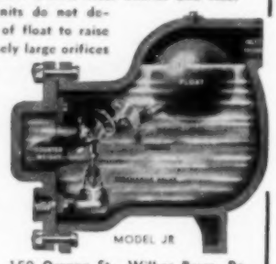
NOPAK
VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

BREVITY—identify by IEN - 2354 if you write the maker

Nicholson W. O. Traps Are LEAKPROOF IN SUPER HEAT

Can't Cook Dry! Never Need Priming!

Nicholson weight-operated traps will not leak live steam, even though body may become completely dry due to re-evaporation. Unlike most bucket and float traps, Nicholson units do not depend on buoyancy of float to raise valve. Their extremely large orifices also keep valve clean, preventing blow-through. Three types for every heavy-duty use; pressures to 1500 lbs. Working parts of stainless steel. Also for air and gasoline.



Catalog 751 159 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.
TRAPS · VALVES · FLOATS

BREVITY—identify by IEN - 2355 if you write the maker

with informative pressure-sensitive Kum-Kleen labels

HERE'S A POWER CHARGE produced by the Baker Oil Tool Co. that would be dangerous to handle without safety precautions, instructions, and other vital information directly on the product. Kum-Kleen labels were selected for this vital labeling job because they can be depended upon to stick-and-stay-stuck, will not pop, curl, or peel even in extremes of heat and humidity. Kum-Kleen pressure-sensitive labels are applied without moistening. They stay stuck to hard-to-label surfaces such as cellophane, pliofilm, polyethylene, glass, metals, varnished wood, etc. For positive, durable and economical labeling, get the facts on Kum-Kleen. They can be produced to your size, shape, color and printing specifications for use in many phases of industrial operations. *Write for Samples and Details Today!*

Kum-Kleen
ADDRESS DEPT. IEN-3.
AVERY ADHESIVE LABEL CORP.
MONROVIA, CALIFORNIA

BREVITY—identify by IEN - 2356 if you write the maker

drill 5 to 7 times more holes in concrete

tilden
ROTARY
KONKRETE KORE DRILLS

You can drill straight, clean, ready-to-use holes at speeds up to 6 inches per minute—even through steel reinforced concrete. Cuts 5 to 7 times more holes than competitive drills. Special diamond-ground, sintered carbide cutters drill up to 1,000 inches of concrete without resharpening. TILDEN factory precision resharpening is FREE! 29 standard sizes—⅝" to 4" dia.—interchangeable shanks up to 60".

PATENTED CORE SLOT EXPELS CUTTINGS AUTOMATICALLY!

U. S. Pat. No. 2506474

WRITE TODAY for free, illustrated catalog.

SOLD BY SUPPLY HOUSES EVERYWHERE

TILDEN TOOL Manufacturing Company
209 Los Molinos • San Clemente, Calif.
Branch Offices:
1144 W. Washington Blvd. Chicago 7, Illinois
1995 N. Fair Oaks Avenue Pasadena 3, Calif.

▼ BREVITY—Identify by IEN - 2357 if you write the maker ▼

32 Pages of Helpful Information on Dust Recovery Systems

If you are now using dust or fly ash recovery equipment in your plant—or are planning installation of such equipment now or later—you will find this new Multiclone booklet full of helpful information. Illustrations and diagrams outline basic principles of dust recovery and how to utilize them for maximum efficiency . . . how to simplify your installations . . . how to conserve valuable plant space . . . how to get high recovery over a wide range of particle sizes, etc. *A copy of this booklet should be in your files for reference and assistance in dust recovery applications. A free copy will gladly be sent you on request. Write today while supplies are adequate.*

WESTERN Precipitation CORPORATION

ENGINEERS, MANUFACTURERS & MANUFACTURERS' REPRESENTATIVES OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS

Main Offices: 1011 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
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PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

▼ BREVITY—Identify by IEN - 2358 if you write the maker ▼

MEET THE NEW MODEL

MUCKLE VENTS

Take a look at the new silhouette . . . it's low slung and streamlined—better looking on any roof!

Get away from old, "eye sore" ventilators—get the newly designed Muckle Vents. Engineered for better performance in moisture laden air—the motor is out of line of air flow. A compact, good looking, easy to install all-in-one unit to fit any roof.

Write today for more information on Muckle Vents.

Muckle MANUFACTURING CO. OWATONNA 81, MINN.

▼ BREVITY—Identify by IEN - 2359 if you write the maker ▼

STOP BASEMENT WALL LEAKS

Smooth-On No. 7 Iron Cement stops your basement wall and floor leaks. You can apply Smooth-on No. 7 with a trowel or stiff brush, to cracks, holes, porous spots or seams in concrete, brick, stone walls or floors. This effective Smooth-On Cement will stay in place, because it expands slightly as it sets. You can also use Smooth-On No. 7 to stop leaks in tanks, cisterns, pools, troughs, fountains, etc. Use it too, to seal openings where piping passes through walls. Sold in 1, 5, 20, and 100 lb. sizes.

FREE Repair Handbook—40 pages packed with helpful suggestions for repairs to equipment and piping, in the shop, around the home and car. Also ask for leaflet describing the uses of Smooth-On No. 7. Write today.

SMOOTH-ON MANUFACTURING COMPANY, Dept. 1
570 Commercial Ave. Jersey City 4, N. J.

Do it with SMOOTH-ON NO. 7 IRON CEMENT

▼ BREVITY—Identify by IEN - 2360 if you write the maker ▼

PAINTING . . Diaphragm compressor portable base, hose and spray gun

Source: W. R. BROWN CORP.
2703 N. Normandy Ave., Chicago 35, Ill.

About $60 without motor

Master Twin No. 444 is a new assembly of portable spray painting equipment employing twin diaphragh assembly of the company's compressor, previously described IEN-6323-41. Belt connection is provided for a motor to be supplied by the user, included are the caster-equipped steel base, a 15-ft. length of ¼-in. air hose, relief valve, pressure gage, V-belt, and motor pulley.

The diaphragm design makes lubrication of the compressor unnecessary in those parts where the air is handled so clean oil free air is delivered at capacity to 4 cfm. and 40 lb. pressure. The paint gun is equipped with a pint container. A utility container holding 3 gal. can be specified.

▼ BREVITY—Identify by IEN - 2361 if you write the maker ▼

INSULATING . . Mica-glass sheet rates 600 volts per mil of thickness

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Meets Class-H specifications

Mica mat is a new sheet type of electrical insulation that starts with baking mica at temperature to 800 deg. C. and then suddenly quenching it in cold water. The thermal shock explodes the mica into tiny flakes to form a slurry in the water. This slurry is fed to a paper-making machine to come out a dry fragile sheet. Next operation is impregnating with silicone varnish and finally the impregnated material is applied to glass cloth to form the finished sheet.

▼ BREVITY—Identify by IEN - 2362 if you write the maker ▼

RECTIFYING . . Miniature selenium sealed cells for electronic circuits

Source: INTERNATIONAL RESISTANCE CO.
407 N. Broad St., Philadelphia 8, Pa.

For stable operation

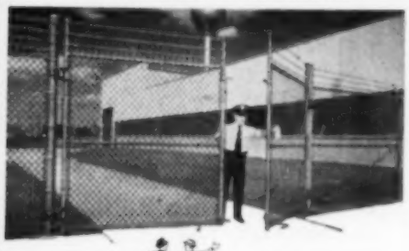
Microstak trade names new line of hermetically sealed rectifiers with cell sizes as small as 0.06 in. in diameter. Current and voltage ratings are to specification. Metal bond to metallized glass is employed in the seal. The two sizes in the illustration are rated at 36 and 4,500 volts peak inverse. The larger unit is 2¾ in. in housing length. Typical applications are in computers, radar, hearing aids, bias supplies.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2363 if you write the maker ▼

PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •



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PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

▼ BREVITY—Identify by IEN - 2364 if you write the maker ▼

SPEED UP SMALL PARTS ASSEMBLY

Parts feed automatically toward front—end reaching and fumbling.

Bins taper toward front to form convenient semicircle—keep all bins within easy reach.

Stacking, locking construction for rigid set-ups, easily changed when necessary.

All-welded construction. Smooth, folded edges.

New-design, adjustable hoppers provide increased capacity and permit regulated flow of parts according to sizes and weights.

Two sizes—tapered or straight sides.

IMMEDIATE DELIVERY

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1077 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM "Stacked and Still Accessible"

▼ BREVITY—Identify by IEN - 2365 if you write the maker ▼

Welding lots of Different pieces or lots alike . . .

This Positioner Increases Production . . . Improves Welds Cuts Rod Waste

This universal table top makes the Worthington Welding Positioner as profitable on *job* work as in mass production.

Those "T" slots make the table adaptable to any shape of work piece and a wide range of sizes. No special jigs or fixtures needed.

Result—up to 50% more footage, better welds (using higher current and heavier rods), less welding rod waste.

Welding positioner capacities from 100 lbs to 30 tons. Also: turning rolls from 3 to 150 tons, stationary or self-propelled.

Write Worthington Pump and Machinery Corporation, Dunellen, New Jersey, for bulletins or additional information.

Y.1.5

WORTHINGTON

WELDING POSITIONERS

▼ BREVITY—Identify by IEN - 2366 if you write the maker ▼

When you require STAINLESS

SAVE TIME: Call FRASSE 1st

STAINLESS STEEL

BARS	TUBING	302	316	440 C
SHEETS	PIPE	303	416	430 F
STRIP	VALVES	304	430	
PLATES	FITTINGS		416 H.T.	
ANGLES	WIRE			

Peter A. FRASSE and Co., Inc.

17 Grand Street • New York 13, N. Y. • *WAlker 5-2200*

LYNDHURST • PHILADELPHIA • BUFFALO • SYRACUSE

BREVITY—Identify by IEN - 2367 If you write the maker

ORDER
JOHNSON UNIVERSAL BRONZE
by Bearing Size

SAVE machine time and money. Johnson Bronze Bars are completely machined—I. D., O. D. and ends . . . with 1/64" cut to bring to bearing size. No waste, no defects. Over 450 sizes, inside diameters 1/2" to 7 1/2", and outside diameters 1" to 10" in cored bars. Solid bars 1/2" to 8" diameters. All 13" lengths. Available from Johnson distributors and warehouses.

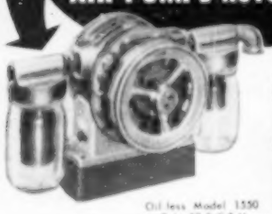
JOHNSON BRONZE CO.
476 S. Mill St., New Castle, Pa.

Write for New Catalog

JOHNSON BEARINGS
Sleeve-Type

BREVITY—Identify by IEN - 2368 If you write the maker

FORGET THE OIL!
GAST rotary Oil-less AIR PUMPS never need it!



Below — Oil-less 3040, end plate removed. From 17 to 24 C.F.M.

Oil-less Model 1550 . . . 8 to 10.5 C.F.M.

SEND FOR CATALOG 15 SHEET 5 FREE on request

Write for new Data Sheet on Oil-less Pumps, showing three types and rating tables.

THEY RUN ENTIRELY without oil in pumping chamber. Carbon rotor vanes lubricate themselves—through thousands of hours' use. Ball bearings grease-sealed for life. You can forget oiling problems!

DELIVERS ABSOLUTELY OIL-FREE AIR. Your product or material can't be contaminated with oil droplets.

FOR BOTH VACUUM AND PRESSURE. Gast Oil-less Models are precision-built for dependable high performance. Sizes from 3.5 to 24 C.F.M., 3 to 10 lbs. pressure, 10 to 20 in. vacuum.

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY — AIR MOTORS · COMPRESSORS · VACUUM PUMPS
GAST MANUFACTURING CORP., 119 Hinkley St., Benton Harbor, Mich.

BREVITY—Identify by IEN - 2369 If you write the maker

STOP DUST
Instantly with **DUSTKOP**

DUSTKOP 1400 cfm.

DUSTKOP 5600 cfm

300 cfm to 10,000 cfm per unit (22 models)

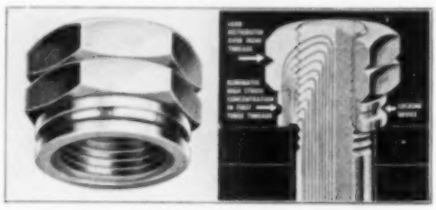
Standard, pre-tested, available from stock. Ask for catalog 605-2. Describe dust problem for recommendation by return mail. No obligation.

AGET-DETROIT CO.
401 Main Street
ANN ARBOR, MICH.

BREVITY—Identify by IEN - 2370 If you write the maker

FASTENING . . Locknut contracts to grip when tightened

Source: KLINCHER LOCKNUT CORP.
2151-55 Hillside Ave., Indianapolis 18, Ind.



Patented design

Grooved ring is pressed lightly in place on the crowned neck in this new Klincher locknut. The fit holds the ring in place but does not compress the threads until the nut has been turned down free and tightened in place. Then the ring does compress inward, tightening the neck threads on the bolt, and elongating the neck sufficiently to apply the load on all of the nut threads. The elastic limit is not exceeded and so the nut can be loosened with a wrench and then turned off by hand for use repeatedly.

Sizes range from 19/32 to 1-in. 14 with corresponding height at 1/4 to 1 1/16 inches. The material is stainless steel.

BREVITY—Identify by IEN - 2371 If you write the maker

STORING . . Steel cabinet drawer with recessed flush front pulls

Source: STANDARD PRESSED STEEL CO.
P. O. Box 14-A, Jenkintown, Pa.

No change in price

Rectangular insert pressed into the face of the company's new steel drawer provides for an attractive modern front, presents a four-finger grip. The new design replaces projecting separate grips, is available on all of the Hallowell lines of shop equipment.

Three drawer sizes are 14 by 15 by 5 in., 14 by 20 by 5 in., 20 by to by 6 inches. Tool stands and wood-top benches in the line carry holes to attach the drawers. Bolts and nuts are supplied for this purpose with eac hunit. Drawers for benches with steel or Presdwood-covered steel tops have adjustable attachment angles. Finish is baked green enamel. Padlock attachments or cylinder locks can be specified.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Scrap is "Loafing" Metal

BREVITY—Identify by IEN - 2372 If you write the maker

CUT IDENTIFICATION COSTS

with BRADY Printed Self-sticking ROLL TAPES

SAVE OPERATORS TIME • ELIMINATE WASTE MOTIONS • GET QUICK, POSITIVE IDENTIFICATION

Label parts, pieces, assemblies, materials, etc., with Brady Printed Tape. Sticks to any clean, dry surface without moistening. Applied by hand or automatic dispenser.

Any wording, numbers, letters, trademarks or symbols printed to your order on cellophane, acetate blue, paper or cloth tapes to fit your job requirements.

Choose from a variety of standard colors, roll lengths and widths.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

DISTRIBUTED IN 125 PRINCIPAL CITIES
MANUFACTURERS OF SELF-STICKING PRODUCTS
WIRE MARKERS · PIPE MARKERS · SAFETY SIGNS · PRINTED SCOTCH TAPE · BRADYS & STENCILS
W. H. BRADY COMPANY
1670 E. SPRING STREET • CHIPPEWA FALLS, WIS.

BREVITY—Identify by IEN - 2373 If you write the maker

THIS IS IT!

World-wide recognition for this outstanding line of electric soldering irons—

HEXACON

—specified by the big names for the *TOUGH JOBS!*

WESTERN ELECTRIC
MINNEAPOLIS HONEYWELL
RADIO CORP. OF AMERICA
WESTINGHOUSE
STROMBERG CARLSON
EMERSON
KAISER
SPERRY
BENDIX
etc.

PLUG OR SCREW TIPS 60 to 300 Watts 1/8" to 1 3/16" Tip Dia.

Follow the leaders and you'll specify HEXACON! They'll efficiently solve your soldering problems too! Write for literature.

Here's the famous HATCHET TYPE

These irons feature better balance for reduced operator fatigue. Efficiency is stepped up, and quality of work is improved. The ideal iron for inaccessible and intricate jobs.

HEXACON ELECTRIC CO.
155 W. CLAY AVE., ROSELLE PARK, NEW JERSEY

BREVITY—Identify by IEN - 2374 If you write the maker

they call me

Handy Andy

Here's the handiest test pump for hydraulically testing pipe, valves and fittings; for operating hydraulically actuated equipment; for hundreds of other uses in field, laboratory or shop. ★ This two-stage, manually operated pump has one cylinder for low-pressure testing (up to 2,500 psi); is quickly shifted to develop up to 6,000 psi. ★ Replaces elaborate, expensive testing equipment. ★ Readily portable (weighs only 70 pounds) and with a bucket of water you can quickly and painlessly develop on-the-spot pressures up to 6,000 psi. ★ Costs mighty little—lasts indefinitely—pays for itself long before a few inexpensive wearing parts need to be replaced. ★ For details and price address . . .

BAKER OIL TOOLS, INC.
BOX 2374 TERMINAL ANNEX
LOS ANGELES 54, CALIFORNIA

BREVITY—Identify by IEN - 2375 If you write the maker

MARMAN

COUPLINGS

Join Ducting, Tubing and Pipe without Bolted Flanges or Threads!

Marman Couplings assemble fast, hold tight, and seal positively. Strong circumferential pressure from the "V" band locks the flanged ends together. Simple rolled sheet metal or machined flanges can be made integral with, or added to, the duct, tube or pipe to be fastened. Joints can be made with or without gaskets.

Marman Couplings do away with expensive, heavy, bolted or threaded machine flanges. They are supplied in continuous or segmented design, either solid or ventilated. Tension is applied by T-bolt take-up or the patented Marman Quick Coupler which allows rapid assembly and disassembly. Marman Couplings are made to accommodate a wide range of temperatures, pressures and size requirements.

WRITE DEPT. I-3 for complete information on Marman Couplings

MARMAN PRODUCTS CO., INC.
940 WEST FLORENCE AVENUE
INGLEWOOD, CALIFORNIA

BREVITY—Identify by IEN - 2376 If you write the maker

with "FLOATING-HUB" Casters!

Damaging shocks can't reach any load carried on Bassick "Floating-Hub" Casters.

Their built-in shock absorbers smooth out rough, bumpy floors . . . cut wear and tear on loads, trucks, and the casters themselves. Wide range of sizes for wide range of materials-handling equipment. Write for literature. THE BASSICK COMPANY, Bridgeport 2, Conn. Division of Stewart-Warner Corp. *In Canada:* Bassick Division, Stewart-Warner-Alemite Corp., Ltd., Belleville, Ont.

BaSSick MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

BREVITY—Identify by IEN - 2377 If you write the maker

. . . You'll want Precision-Engineered UNIVERSAL METAL HOSE

There are many types and sizes of UMH . . . each engineered to a purpose. UMH gives you the *most efficient, air-tight, fluid-tight conveyance possible* for gases, liquids and bulk solids at elevated pressures and temperatures.

And because of *advanced engineering design*, UMH Flexible Metal Hose is tough, rugged and highly effective in resisting heat, pressure, corrosion and constant vibration.

Let us carry your load . . . tell us your troubles . . . you'll get a lot of help from our engineers, and the exact hose required from the specialized UMH Line AVAILABLE NOW.

UMH Seamless Flexible Tubing—for oil, steam, chemicals.

UMH Interlocked High-Pressure Hose — for water, hot tar, asphalt.

UMH Interlocked Exhaust and Blower Tubing—for high temp. exhausts, for lime, sand, etc.

UMH Square-Locked Low-Pressure Tubing—for spouts, dispensers, exhausts, vacuum intakes.

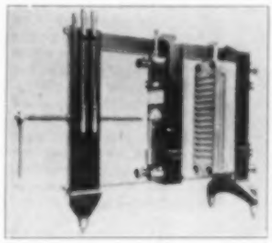
Remember . . . most UMH Metal Hose are still available. Send us your requirements and ask for Catalog U-101, for your handy reference file.

UNIVERSAL METAL HOSE CO.
2131 S. Kedzie Avenue • Chicago 23, Illinois

BREVITY—Identify by IEN - 2379 If you write the maker

HEATING . . Plate type exchanger opens quickly to inspect or clean

Source: WALKER-WALLACE INC.
135-39 Arthur St., Buffalo 7, N. Y.



Trade named Paraflow

A liquid product can be heated in passage through this new Model-HF exchanger by application of hot water or steam. The product can be cooled by circulating cold water or chilled by circulating brine or other suitable liquid refrigerant. Two products can be passed through for regenerating exchange to recover a major portion of the heat contained in the hot product. The exchanger can be set up in single or multiple sections for one or all of the actions in a continuing process cycle.

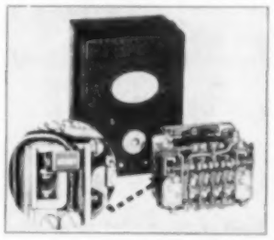
In each case the product and the heating or cooling medium flow through closed passages across the faces of grooved plates, the product on one side and the medium on the other. Turbulence set up in passage through the unit provides first-class heat transfer and maintains uniform heating or cooling.

The plates are made of stainless steel in standard construction but can be specified in other metals. The assembly will handle operating pressure to 120 lb. and flow at rates to 400,000 lb. per hour. The plates assemble between headers in a frame that rides on three support points. Overall length, depending upon the number of plates and arrangement, ranges from about 6½ to 10 ft. in closed position. Width is 29 in. and height of the assembly is 7 feet.

BREVITY—Identify by IEN - 2380 If you write the maker

MOTOR CONTROL . . Magnetic contactor, line voltage type, in sizes 0 and 1

Source: R-B-M DIVISION
202 Hanna St., Dept. L, Logansport, Ind.



Detailed in Bulletin 605

Motor rating is ½ to 7½ hp. for this new ac. magnetic contactor. It is available in reversing and non-reversing type with a trip-free bimetallic overload relay featuring visible palladium-silver snap-action contacts. The relay employs an interchangeable heater element with ratings based on the value of the current that will ultimately trip in a 40-deg. C. ambient or 1.15 times the maximum full-load current listed in the heater-selection table.

Construction includes two to four-pole assemblies with Ilsco solderless terminals standard, screw terminals to specification, trip-free manual reset, standard manual-automatic when specified. Contact carrier and stationary contact blocks are molded melamine plastic. Stationary and movable contact assemblies can be taken out as units.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 99

BREVITY—Identify by IEN - 2381 If you write the maker

NEW PERMANENT NON-SLIP

FIRM-GRIP *Genuine* NEOPRENE LATEX **GLOVES**

- ✔ **Permanent** NON-SLIP on all 5 Fingers and Palm. Highly efficient embossed surface is *integral part* of glove
- ✔ **Impregnable** to ACIDS, CAUSTICS, OILS
- ✔ **Curved** FINGERS for Comfort and Easy Use

No. 5740-S LONG GAUNTLET Length 14", Gauge .030 to .040 Sizes 9, 10, 10½, 11, 12

No. 5720-S LIGHT DUTY Length 10½", Gauge .017 to .020 Sizes 7, 7½, 8, 8½, 9, 9½, 10, 11

★ Write for sample and prices

SEIBERLING LATEX PRODUCTS CO.
AKRON 9, OHIO

200-5th Ave., New York
Merchandise Mart, Chicago

BREVITY—Identify by IEN - 2382 If you write the maker

helpful HYDRAULIC PRESS *catalog*

75 STANDARD MODELS

Keep it in your machine tool file. Hannifin Standardized Hydraulic Presses Catalog contains complete descriptions and specifications on Hannifin Forcing Presses, Straightening Presses, Column-Type Presses. Hannifin Corporation, 1107 S. Kilbourn Ave., Chicago 24, Ill.

do ALL you CAN do . . . with

HANNIFIN

Air Cylinders • Hydraulic Cylinders • Hydraulic Presses
Pneumatic Presses • Hydraulic Riveters • Air Control Valves

BREVITY—Identify by IEN - 2383 If you write the maker

NEW CLEANER Does the Work of 3

IDEAL BLO-R-VAC

A "Tank-Type" Cleaner
A "Hand-Type" Cleaner
A Blower-Sprayer
. . . All In One Unit!

More for your cleaner dollar with this ALL-NEW, low-cost, multi-purpose unit! As a "tank-type" cleaner it vacuums lint, dirt, dust, scrap metal and *picks up water*. Has strong dust-tight bag and 12-gallon steel tank. Power unit can be removed in a jiffy for use as a blower, a sprayer . . . or a hand-type vacuum cleaner! Full selection of attachments available. Built to highest *industrial* standards. Two models —1-1/5 H.P. and 2/3 H.P.

TRY IT FREE

IDEAL INDUSTRIES, Inc.
1108 Park Avenue
Sycamore, Illinois
Arrange FREE DEMONSTRATION of your new BLO-R-VAC in our plant.
NAME
COMPANY
ADDRESS
CITY ZONE STATE

SOLD THROUGH AMERICA'S LEADING DISTRIBUTORS

BREVITY—Identify by IEN - 2384 If you write the maker

For Protective and Productive Lighting *Specify* PYLE-NATIONAL

WEATHER-TIGHT . . . DUST-TIGHT

ENCLOSED FLOODLIGHTS

Don't economize on the initial cost when planning a floodlight installation. It is the elimination of large maintenance, repair and replacement expense that counts.

Sealed against moisture and dirt, constructed throughout of rugged, corrosion-proof materials, Pyle-National floodlights retain their original high-efficiency output throughout an exceptionally long service life, with negligible maintenance and replacement expense.

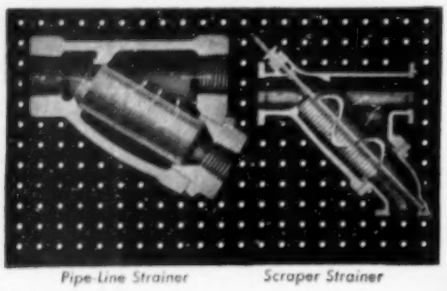
Write for Floodlight catalog 2100.

THE PYLE-NATIONAL COMPANY
1248 NORTH KOSTNER AVENUE CHICAGO 51, ILLINOIS

District Offices and Representatives in Principal Cities of the United States.

PLUGS AND RECEPTACLES - PYLET CONDUIT FITTINGS

▼ BREVITY—Identify by IEN - 2388 If you write the maker ▼



Pipe-Line Strainer Scraper Strainer

Strainers protect steam traps, regulating and reducing valves, pumps, meters or nozzles. Also, keep impurities out of fluids of all kinds. Available with scrapers for operation without interruptions for cleaning screens. Catalog Nos. 1200 and 1225.

SARCO PIPE LINE STRAINERS

SARCO SAVES STEAM

SARCO COMPANY, INC.
Represented in Principal Cities
Empire State Building, New York 1, N. Y.
SARCO CANADA, LTD., TORONTO 8, ONTARIO

IMPROVES PRODUCT QUALITY AND OUTPUT

▼ BREVITY—Identify by IEN - 2386 If you write the maker ▼

MAINTENANCE MEN!

this book helps you get more from your chains and sprockets

Here's just what you're looking for to help you get longer life from your chain drives and conveyors. This new pocket-size handbook is packed with useful tips that are of real value.

There are chapters devoted to installation, lubrication, operation, repair and storage as well as a number of helpful sketches, charts and graphs. One novel feature is a detailed check chart on "Cures for Sick Chains." It's a book you'll want and keep, and it's yours for the asking. Send for your copy today.

REX Just use the coupon

BALDWIN-REX

Chain Belt COMPANY
OF MILWAUKEE

Chain Belt Company 52-407A
16 S. W. Bruce St., Milwaukee 4, Wis.
Gentlemen: Please send me ( ) copies of your Bulletin 51-7.

Name .....
Company ..... Dept. .....
Address .....
City ..... State .....

▼ BREVITY—Identify by IEN - 2388 If you write the maker ▼

CONVEYING . . Inclined belt unit handles work delivered from a machine

Source: METZGAR CO.
417 Douglas St. N. W., Grand Rapids 4, Mich.

New assembly of standardized parts makes up this new unit in the company's line of short-run belt conveyors known as the Press Helper. It drives a 12-in. belt measuring 6 ft. in length between 6-in. tail and head pulleys. Receiving and discharge ends are adjustable from 14 to 60 in. on the wheel-equipped base. Drive is by a motor. Reversing control can be specified.

▼ BREVITY—Identify by IEN - 2389 If you write the maker ▼

JACK . . Hand hydraulic design rates 50 ton for use by riggers

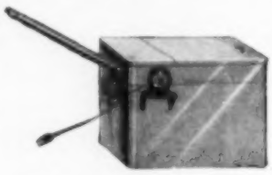
Source: WM. S. PINE
1637 E. 22nd St., Los Angeles 11, Calif.

Ram travel is through 10 in. for this new 50-ton hydraulic riggers jack. The travel length provides for use of 6-in. cribbing for handling heavy machinery without requiring an extra setting. The jack is made of cast and welded alloy steel, all heat-treated. Moving parts employ bronze against steel. Dimensions are 10 by 12 by 16 inches. Weight is 125 lb. Designation is PHF-5010.

▼ BREVITY—Identify by IEN - 2390 If you write the maker ▼

CRUSHING . . Motor driven machine breaks fluorescent lamps for disposal

Source: LADUBY CO.
P. O. Box 88-A, Branford, Conn.



About $88

Burned out lamps are entered into a crushing chamber through a feed tube on this new Flur-O-Lamp machine. Crushing takes place under water. The broken pieces collect in a perforated basket that lifts out for emptying from time to time. As many as a hundred fluorescent lamps can be broken up in ten minutes. Operation is on 110-volt 60-cycle ac. The tank takes 7½ gal. of water. Weight is 75 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

▼ BREVITY—Identify by IEN - 2391 If you write the maker ▼

Now you can fasten V-belts by using

ALLIGATOR V-BELT FASTENERS

● Alligator V-Belt Fasteners and open-end (long length) V-belting in rolls will enable you to make up multiple V-belt drives for a wide variety of applications.

Available for B, C and D sizes of V-belting.

Not to be used for repairing endless cord V-belts.

Bulletin V-211 will give you complete details. A copy mailed on request.

Order from your supply house

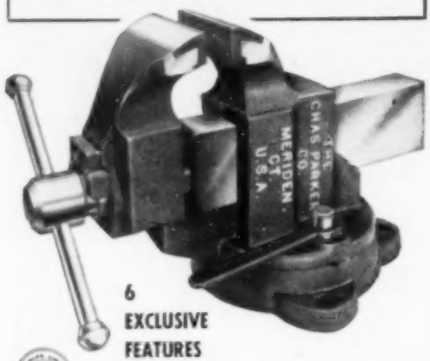
FLEXIBLE STEEL LACING COMPANY
4610 Lexington Street, Chicago 44, Illinois

Also sole manufacturers of Alligator Steel Belt Lacing for flat conveyor and transmission belts and FLEXCO Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

▼ BREVITY—Identify by IEN - 2392 If you write the maker ▼

PARKER VISES

Complete Line Including
HINGED PIPE VISES • WOODWORKERS' VISES



6 EXCLUSIVE FEATURES

Write for catalog
Sold 100% through distributors

THE CHARLES PARKER CO.
MERIDEN CONNECTICUT

▼ BREVITY—Identify by IEN - 2393 If you write the maker ▼

PIPE THREAD PROTECTORS

QUICKLY APPLIED
COMPLETELY SECURE
LOW IN COST

Also available in designs to protect plain pipe ends, tube ends, valves, other parts. Ends can be open as shown or solid.

Kraft paper lining inside a crimped steel shell protects threads or plain pipe ends from damage. The protector is pushed into place, holds firmly, will not shake or fall off.

Immediately available in ½ to 3-inch pipe sizes. We can make many types and sizes in large quantities at very low cost.

Ask for samples

PROTECTOR PRODUCTS, INC.
2152 W. 15TH ST., CLEVELAND 13, OHIO

▼ BREVITY—Identify by IEN - 2394 If you write the maker ▼

The New Hoffman ELECTRONIC SAFETY GUARD gives you

New Electronically Controlled SAFETY and BARRIER GATE GUARD brings benefits to both management and workers

YOU can increase your plant power press production immediately with installation of the Hoffman Safety and Barrier Gate Guard. It gives the operator greater assurance, eliminates fatigue and accident time-loss. It will give higher and smoother production per man hour.

The Hoffman Guard is an electronically controlled guard consisting of four major parts—Light Source and Photo Cell Assembly — Amplifier — Magnetic Treadle Control — Non-Repeat Micro Switch. The Barrier Gate Guard is an auxiliary unit and is used as a double safety precaution.

HOFFMAN ENGINEERING CORP.
Department 4-1 • Anoka, Minnesota
Please send free details about the Hoffman Electronic Safety Guard.
Name .....
Address .....
City ..... State .....

HOFFMAN ENGINEERING CORPORATION
ANOKA, MINNESOTA
Electronic Controls for Industry

BREVITY—Identify by IEN - 2395 If you write the maker

Save a Business Life — Yours!

A critical need exists for higher productivity and better cost and quality control to offset steadily rising costs, sharp competition and flimsy profit margins and the need is urgent. Better planning and equipment is needed. High on the priority list of equipment are scales . . . *the right kind in the right place*, for good scales are the very heart of any processing and packaging operation from precision ingredient compounding to final checkweighing of the finished packaged goods. No operation today can stand a loss due to failure in ingredient compounding. No operation can absorb packaging shrink from bulk to finished product. You cannot package even a part of those paper thin profits now. From raw materials to shipping docks, alert engineers are pin pointing every spot where adequate weighing units will save money, increase productivity and speed up operation. Saving business lives today is a very active engineering job and no division of EXACT WEIGHT Scales is busier than our own engineering department. Why don't you avail yourself of this know how for your business.

EXACT WEIGHT SCALE Model No. 273 for counting, testing, production line checkweighing. Features end-tower construction, speed of operation—Capacity 12 lbs.

EXACT WEIGHT SCALES
Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

BREVITY—Identify by IEN - 2396 If you write the maker

Preferred power on booster and portable pumps, lighting plants, portable power tools of wide variety for oil-field service — the world's most widely used single-cylinder, gasoline engines on equipment used by industry, construction, railroads, and on farms and in farm homes.

BRIGGS & STRATTON engines have, by far, more air-cooled power experience built into them than any other single-cylinder, 4-cycle, air-cooled engines — more than 30 years of continuous production.

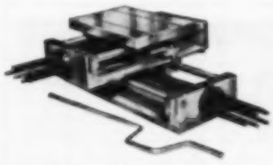
Briggs & Stratton Corporation,
Milwaukee 1, Wisconsin, U. S. A.

In the automotive field Briggs & Stratton is the recognized leader and world's largest producer of locks, keys and related equipment.

BREVITY—Identify by IEN - 2398 If you write the maker

DRILLING . . Spacing table positions work under a machine spindle

Source: QUEEN CITY MACHINE TOOL CO.
215-219 E. 2nd St., Dept. IE, Cincinnati 2, Ohio



Replaces jigs and fixtures

Nine positions each in longitudinal and transverse directions can be set up for work under a stationary spindle to drill or bore with this new Speedi-Spacer hand-operated table. It provides 15 in. of longitudinal movement, 10 in. of transverse travel. The table top measures 28' by 22 inches. Overall height is 10 in. and weight is 250 pounds.

Work is secured in the slots in the table top and set-up is made with suitable measuring equipment applied between hardened measuring pads on both the carriage and table movements. Adjustable stop screws are set in pairs to locate each hole and the work so the table can be brought to successive positions and locked there.

The stop screws apply one at a time in their turret assembly against positioning blocks. Thrust of the drilling operation and the weight of the work are carried by Formica bearing blocks that ride on ground steel ways.

BREVITY—Identify by IEN - 2399 If you write the maker

CLEANING . . Pocket kit assembly of lens cleaner and anti-fog liquids

Source: WILKINS CO.
218-22 Groton Ave., Cortland 24, N. Y.

Designed for individual use

Twinkit is a new assembly of the company's lens-cleaning fluid and its anti-fog liquid, both previously developed as separate items for industrial use. Glasses and goggles, as well as instrument lenses, can be kept clean and free from tendency to fog by use of the two materials.

BREVITY—Identify by IEN - 2400 If you write the maker

MILLING . . Carbide blade cutter for heavy cuts in steel and cast iron

Source: KENNAMETAL INC.
100 Lloyd Ave., Latrobe, Pa.

Ample chip clearance

Style KF is a new inserted-blade face-milling cutter available in four diameters between 6 and 12 inches. Right and left-hand units are included in the line for use on steel where adequate driving power is available and for heavy cuts in cast iron. Nuts are tightened on stud-type wedges to hold the solid carbide blades in place. Tightening does not require use of a hammer. The wedges are hardened and ground and can be interchanged in any slot of any cutter in the line. The blades can be advanced in the direction of the cut.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 2401 If you write the maker

A PAID NEWS ADVERTISEMENT BY PIERCE GOVERNOR CO.

New Long Range Governor Fits 9 out of 10 Industrial Engines

A new Long Range Universal Governor developed by the Pierce Governor Company fits virtually any make of gasoline engine used in industry and farming.

This one truly universal governor, is ideally suited for engines operating drag lines, hoists, air compressors, corn shellers, arc welders, etc., or for trucks and tractors equipped with power take-offs for any number of operations.

The Governor gives close, accurate engine control at any speed setting between 1200 and 2600 RPM. Instant "variable speed" operation is accomplished by simple push-pull setting of a speed change lever (linked to dashboard control or quadrant). "Constant speed" operation is effected by locking the speed adjustment at the desired speed.

The new governor is easy to mount. Carburetor control lever and speed change lever fit either side of the governor so that the governor (belt driven) may be mounted on either side of the engine most convenient to the carburetor. Mounting bracket, carburetor valve box, linkage rods and ball joints are standard items available at any Pierce Service Station. List price is $44.00 (equipped with standard 5" pulley). Dealerships are available.

Orders should be accompanied by check or money order. State make, model engine. Write for descriptive literature.

THE PIERCE GOVERNOR COMPANY, Inc.
Box 1000, Anderson, Indiana

BREVITY—Identify by IEN - 2402 If you write the maker

For those Auxiliary Handling Jobs

MERCURY "SHUTTLE-TRUK"

• Battery powered • 2000 lb. capacity • 82-in. turning radius

For those emergency calls . . . for maintenance and service jobs, the SHUTTLE-TRUK gives you quick, immediately available handling capacity. Brings heavy materials, tools, machinery right to the job . . . and the operator rides with the load! Carries 2000 lbs. on its broad platform . . . or hauls heavy trailers. Compact design, easy steering make the SHUTTLE-TRUK maneuverable in narrow aisles. Clean, quiet battery power permits SHUTTLE-TRUK to work where gas vehicles can not. Write for Bulletin No. 180.

MERCURY
FORK TRUCKS · TRACTORS · TRAILERS

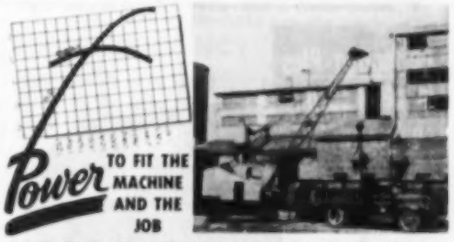
MERCURY MANUFACTURING CO. 4112 S. Halsted St., Chicago 9, Ill.

BREVITY—Identify by IEN - 2403 If you write the maker

SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS.

BREVITY—Identify by IEN - 2404 If you write the maker



Power TO FIT THE MACHINE AND THE JOB

WISCONSIN-POWERED
Power Plants, Inc. Generator

Three carloads of scrap travel fast from freight cars to trucks every day with this crane on the job. It's equipped with a 36" ECM magnet, and the generator, built by Power Plants, Inc., Cleveland, Ohio, is powered by a Wisconsin Air-Cooled Engine.

Over and above time and labor saved through Wisconsin Engine dependability, servicing and maintenance are reduced to a minimum. For example, bearing failure is unheard of due to tapered roller bearings at both ends of crankshaft. Fool-proof air-cooling means no winter freeze-ups or summer overheating. And an easily-serviced OUTSIDE magneto with impulse coupling delivers all-weather quick starts. Those features, combined with rugged construction, are the basis for the most dependable, most versatile power in the 3 to 30 hp. range . . . WISCONSIN POWER.

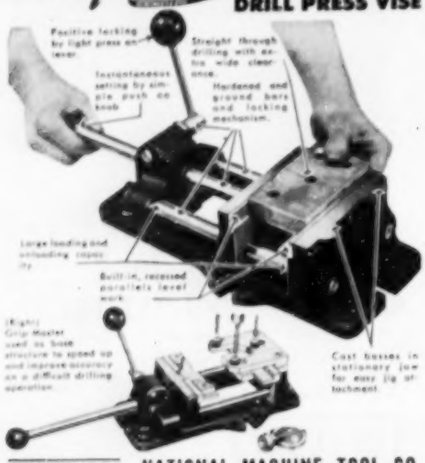
Write for details covering 4-cycle single-cylinder, 2-cylinder and V-type 4-cylinder models.

WISCONSIN MOTOR CORPORATION
Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46, WISCONSIN

BREVITY—Identify by IEN - 2405 If you write the maker

Speed-up DRILL PRESS OPERATIONS

WITH THE HEINRICH GripMaster SCREWLESS DRILL PRESS VISE



See the Heinrich line ASTE SHOW Chicago—Mar. 17-21 BOOTH No. 232

NATIONAL MACHINE TOOL CO.
DEPT. 172-C
RACINE, WISCONSIN

BREVITY—Identify by IEN - 2406 If you write the maker

MODERN TIME AND COST SAVERS BUILT BY... Standard GRAVITY & POWER CONVEYORS

LIFT OR LOWER—FLOOR TO FLOOR WITH A

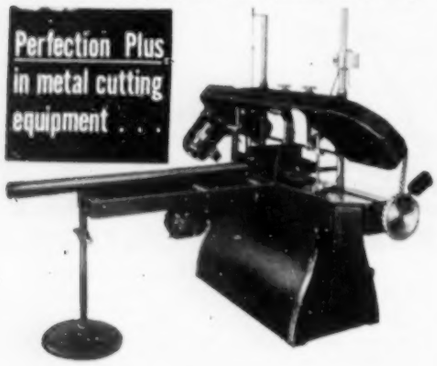
STANDARD INCLINEBELT

Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; two belt widths to handle commodities 15½ inches to 25½ inches wide. Electric motor operated. Write for INCLINEBELT Bulletin — address Dept. IEN-32.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

BREVITY—Identify by IEN - 2407 If you write the maker

Perfection Plus in metal cutting equipment . . .



. . . . by the PIONEERS in this field!

Production volume UP, manufacturing costs DOWN—that's the job our band saws are doing in plant after plant. Big 14" x 18" capacity gives broad operating range. Fully automatic—motor driven, hydraulically controlled. Perfected by the pioneers in electric band saw manufacturing, these units guarantee the utmost precision accuracy.

Investigate the money saving possibilities offered by our line of trouble-free saws. Coolant system for wet cutting, automatic move-up system, and other accessories available as described in our FREE illustrated catalog.

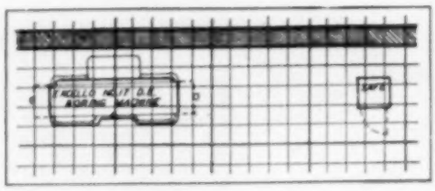
WRITE TODAY FOR COMPLETE INFORMATION

W. F. WELLS & SONS
Three Rivers, Michigan

BREVITY—Identify by IEN - 2408 If you write the maker

LAYOUT . . Equipment templates and sectioned sheet for blue printing

Source: F. WARD HARMAN ASSOCIATES
152 Loyds Neck, Halesite, N. Y.



Complete kit about $50

TemPrint trade names a new collection of scale-size templates covering individual units of plant equipment and a scaled layout sheet to represent a plant area. Both are produced on transparent film, the equipment template being supplied for equipment specified. Pieces are also provided to represent walls, partitions, windows, office furniture.

The templates are cut out and applied to the sectioned sheet to show an existing layout or to set up a new one. They adhere to the sheet to run through a contact printing machine for as many copies as may be required. Either ⅛ or ¼ in. scale is available. The templates can be removed from a given layout and positioned again for a new one.

A kit with which a user can make a layout includes one sheet in ¼ in. scale measuring 24 by 36 in., six 8½ by 11-in. sheets backed with the adhesive tape from which templates can be made, one roll each of exterior walls, interior walls, doors and windows. Example is illustrated.

BREVITY—Identify by IEN - 2409 If you write the maker

GAGE . . Monochromatic light to inspect flatness of a work surface

Source: ACME SCIENTIFIC CO.
1455-59 W. Randolph St., Chicago 7, Ill.

No confusing rainbow

New light provides a large bright working field for use in conjunction with optical flats. It avoids the necessity of exact alignment of the work and promotes quick inspection. The unit emits light of a single wave length so interference bands appear clear and sharp for visibility on a relatively dull surface or through an appreciable air gap. Each interference band seen under the light indicates a vertical height range of 0.0000116 in. to determine surface deviation from flatness.

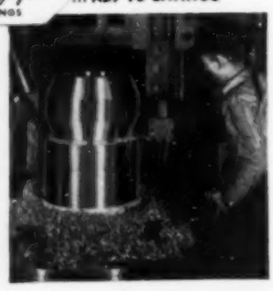
Bores and inside diameters can be inspected for surface defects. Construction includes cast base and sheet-metal hood with black crinkle finish. Weight is 17 pounds. Operation is on 110-volt 60-cycle ac.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

BREVITY—Identify by IEN - 2410 If you write the maker

SHENANGO Centrifugal CASTINGS ... KEY TO SAVINGS

How to save time and money on symmetrical parts!



FIRST, such parts are produced by Shenango's advanced centrifugal casting process. This means *tougher* parts because of finer, pressure-dense grain, greater strength, better elongation and freedom from sand inclusions, blow holes and other often hidden defects. It also means less waste, less machining.

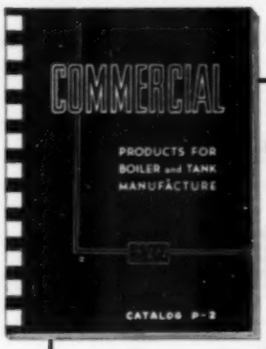
Second, Shenango has the modern machining facilities and skilled workmanship to give you semi-machined or finished parts...precisely as specified...at minimum cost! The heavy trunnion bearing shown above is one of the many types of parts, large and small, ferrous and non-ferrous, regularly produced at Shenango.

SEND FOR FREE BULLETINS
Bulletin No. 150 covers non-ferrous centrifugally cast parts; Bulletin No. 151 for parts of Meehanite Metal and Ni-Resist.

SHENANGO-PENN MOLD COMPANY
Dover, Ohio
Executive Office: Pittsburgh, Pa.

SHENANGO
ALL RED BRONZES · MANGANESE BRONZES · ALUMINUM BRONZES
MONEL METAL · NI-RESIST · MEEHANITE METAL

BREVITY—Identify by IEN - 2411 If you write the maker



TANK HEAD Catalog by "COMMERCIAL"

Ready for You NOW!

WRITE FOR IT

THE COMMERCIAL SHEARING AND STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

BREVITY—Identify by IEN - 2412 If you write the maker

SPEED UP SLOW-FLOW MATERIALS

TARS
PLASTICIZERS
WAXES
MOLASSES
GLUES
RESINS
GREASES
GUMS . . ETC.

ACRAWATT ELECTRIC
DRUM HEATERS
FIT ALL STANDARD 22¼" DRUMS

- Proven Acrawatt THINSTRIP Construction.
- 3 Heats: 3000 Watts 230 Volts.
- Fast Heat Transfer.
- Aluminized Steel Encased.
- Enclosed Wiring Terminals.
- Low Radiant Loss.
- Fully Insulated.
- Easy to Install and Remove.

Kill time-consuming, costly slow-flow of viscous materials. Slip one or more Acrawatt Drum Heaters on your drums. Make cloggy, sluggish contents get a move on. Go on and off in a jiffy. Safe and simple to apply and operate. Use singly or in multiple. Save with Acrawatt reliability, long life ruggedness and efficiency. Order today.

ORDER NOW
EA. $19.50 F.O.B. CHICAGO
Spot Shipment
Shipping Wgt. 10 Lbs.

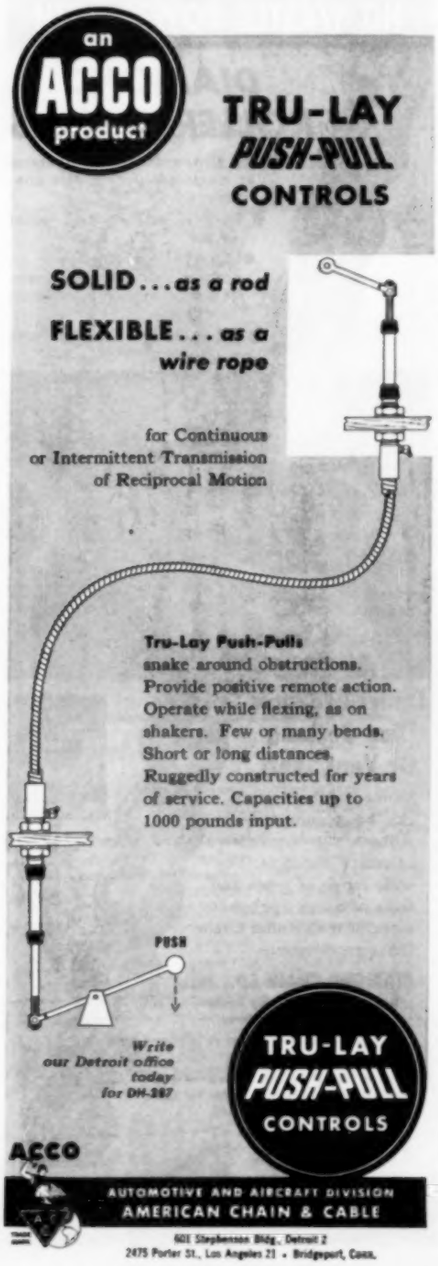
FOR BETTER ELECTRIC HEATERS AT BETTER PRICES, LET US QUOTE

ACRA INDUSTRIAL ELECTRIC CO.
9905 PACIFIC AVENUE FRANKLIN PARK, ILLINOIS

BREVITY—Identify by IEN - 2413 If you write the maker

▼ BREVITY—Identify by IEN - 2414 if you write the maker ▲▼

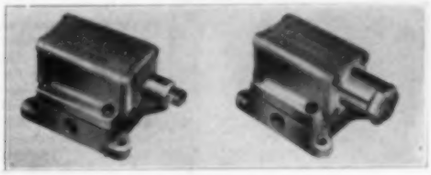
▼ BREVITY—Identify by IEN - 2415 if you write the maker ▲▼



▼ BREVITY—Identify by IEN - 2417 if you write the maker ▲▼

VALVE . . Four-way design for double-acting pneumatic cylinders

Source: MECHANICAL AIR CONTROLS INC.
15309-13 W. 11-Mile Road, Royal Oak, Mich.



For pressure to 150 pounds

Valve movement by means of a cam or by air-pilot pressure can be specified now for the company's four-way valve, previously described IEN-634-50. The company also announces availability of a ¼-in. size to that initial solenoid-operated design which was made in ⅜ and ⅜-in. pipe sizes. In each case the main valve is an assembly of bronze body, chromium-plated lapped bore, O-ring seals and aluminum piston.

▼ BREVITY—Identify by IEN - 2418 if you write the maker ▲▼

PAINTING . . White baking enamel particularly for reflecting surfaces

Source: MAAS & WALDSTEIN CO.
436-40 Riverside Ave., Newark 4, N. J.

Excellent for light fixtures

Reflecting ability as high as 91 per cent is possible with multiple-coat application of the of the new Codur white baking enamel No. 99710. Application can be made by spray or dip on most metals. Baking follows for 20 min. at 270 deg. F., or an hour at 250 deg. F. Characteristics include good flexibility and abrasion resistance, ability to clean with soap and water.

▼ BREVITY—Identify by IEN - 2419 if you write the maker ▲▼

PROTECTING . . Steel-paper cap for plain or threaded pipe and tube

Source: PROTECTOR PRODUCTS INC.
2148-52 W. 15th St., Cleveland 13, Ohio

Ask for samples

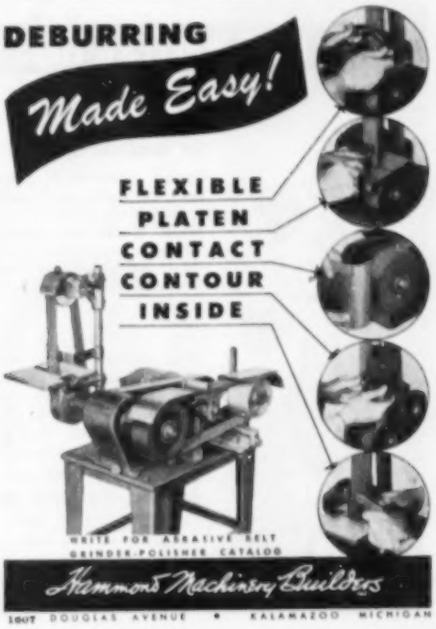
Steel strip and Kraft paper are fed together into a press in manufacture of this new pipe and tube protector. The steel crimps as illustrated in the forming operation. The ribs formed by the crimping add strength and spring action to the unit so it will grip and hold when it is pushed over a plain or threaded pipe end. In the latter case it must be turned to remove it.

Sizes range from ½ to 3-in. pipe. Ends can be solid or open. Special shapes and sizes are available on quantity order.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2420 if you write the maker ▲▼

▼ BREVITY—Identify by IEN - 2421 if you write the maker ▲▼



▼ BREVITY—Identify by IEN - 2422 if you write the maker ▲▼

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U.S.A.

Write for KIPP Air Tool Catalog AT 3006

▼ BREVITY—Identify by IEN - 2423 if you write the maker ▲▼

HIGH EFFICIENCY DUST CONTROL with DUCON WASHERS

- Afford the most economical and efficient control and wet suppression of dust and fumes because of superior design and unique features.

- In addition to use for washing of air and gases, DUCON Centrifugal-Wash Collectors are ideal for many other applications such as: gas absorption, condensation of solvents, heat exchange, distillation and chemical reactions.
- Assure collecting efficiency up to 99%. No secondary dust problem. No moving parts, therefore practically no maintenance. Retains constant air capacity. Eliminates fire and explosion hazards. Can be used in high temperatures.
- Construction steel plate, electrically welded. Easy accessibility to all internal parts. Built for simplified installation.

Write for descriptive, illustrated Bulletin CW 48-1.

The DUCON Co.
MINEOLA, N. Y.

BREVITY—Identify by IEN - 2424 if you write the maker

CARTER RIGID WHEELS & TIRES

TOPS in High Speed Heavy-Duty Service for Bandsawing

Speed production, save saws, cut material loss and lower costs — with Carter Rigid Wheels and Quick Change Tires. Tires won't throw even at 1800 R.P.M. Mounted like automobile tires and rims. Changed in 10 min. Tires will outwear 3 or 4 of other makes. Available for 30 or 36-inch machines with any type of hub or bearing—either as standard equipment on new machines or for modernizing obsolete equipment.

Write for free, illustrated folder.

CARTER PRODUCTS COMPANY, INC.
420 Wm. Alden Smith Bldg.
30 Ionia Avenue, S. W.
GRAND RAPIDS 2, MICH.

Carter

CUTS COSTS WAY DOWN!

BREVITY—Identify by IEN - 2425 if you write the maker

SAFER LOAD BREAKING

New Switch Withstands Heavy Short Circuits Without Damage

For the first time in a safety switch, magnetic repulsion is used to break loads quickly, safely.

The unique "arc-quenching" action of Trumbull's HCI (High Capacity Interrupter) Type A switch provides extra safety and lengthens contact life by preventing pitting.

Other safety features: no exposed live parts when switch is OFF and door is open . . . no faulty indication—switch is either fully ON or fully OFF. Underwriters' Laboratory Approved.

Write for Bulletin TEC-10.

TRUMBULL (T) ELECTRIC

Department of General Electric Company
PLAINVILLE, CONNECTICUT

BREVITY—Identify by IEN - 2426 if you write the maker

TM *Alloy Steel* CHAINS

DO MORE WORK, LAST LONGER, COST LESS than wrought iron types!

Your chain problems are substantially reduced with TM Alloy Steel Chain. Records prove it *outlasts and outperforms* wrought iron types. It's more economical too!

TM Alloy Steel Chain has twice the tensile strength. Controlled heat-treatment assures a uniform hardness of from 265 to 285 Brinell. Highly resistant to abrasion, cold-working, grain-growth and shock at all temperatures.

THE MARK OF QUALITY
This Registration Ring bears the serial number and safe working load.

Send for free booklet containing all the facts and specifications on famous TM Alloy Steel Chain.

TAYLOR MADE
A GREAT NAME IN *Chain* SINCE 1873

S. G. TAYLOR CHAIN COMPANY
Dept. 4, Hammond, Indiana
Rush literature and prices on TM Alloy Steel Chains.

Name _____

Address _____

BREVITY—Identify by IEN - 2427 if you write the maker

HOSE . . Seamless flexible bronze for liquids, gases, isolates vibration

Source: TITEFLEX INC.
593 Frelinghuysen Ave., Newark 5, N. J.

Detailed in Catalog 1949

Helical construction in this new Uniflex hose distributes the flexing action between the inner and outer convolutions. It supplements the company's regular line of standard flexible metal hose. It is suited particularly to handle liquids and gases at high temperature and to withstand corrosion and abrasion. It applies as a vibration isolator between equipment and pipe lines. Construction includes one or more layers of bronze-wire braid and the required fittings.

Size range from ¼ to 6 in. in inside diameter with wall thickness at 0.01 to 0.07 inch. Random lengths are to 6 ft. in closed pitch and to 10 ft. in open pitch in sizes to 2½ inches. Above this the length is 4½ and 9 feet.

BREVITY—Identify by IEN - 2428 if you write the maker

VALVE . . Bellows actuated for water to a refrigerant condenser

Source: ELECTRIMATIC CO.
3503 Howard St., Skokie, Ill.

Pulls down to flush

New assembly of the bellows actuating element at the top of this condenser-water regulating valve and the push-type stem extending into the valve body is shrown in the illustration. The arrangement permits insertion of a screwdriver between the bellows and the stem so the latter can be held down manually for flushing action. The valve is then reset and is ready for regular service.

Three types known as WP, WK and WJ cover a size range from ⅝ to 4 inches at the valve connections. Head pressure range is between 50 and 150 pounds. Water pressure is to 150 pounds. Rising condenser pressure on the refrigerant side opens the valve. Falling pressure permits it to close. The valve can apply with Freon, methyl chloride, sulphur dioxide.

BREVITY—Identify by IEN - 2429 if you write the maker

HEAT TREATING . . Temperatures, atmospheres, intervals to treat 13 tool steels are assembled on free slide chart

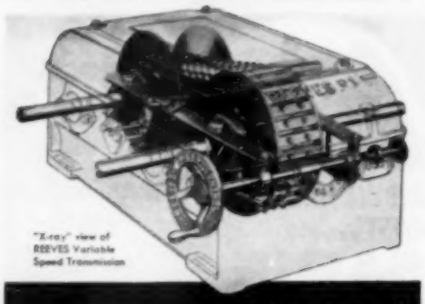
Carpenter Steel Co.
351 W. Bern St., Reading, Pa.

We supplement information, previously published in IEN-12431-51, to tell you about the slide chart available on request to provide information on correct treating procedure for 13 selected tool and die steels. "Guide to Simplified Heat Treating" is the title. The chart measures 5 by 11 inches and is made of cardboard.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2430 if you write the maker

BREVITY—Identify by IEN - 2431 if you write the maker



"X-ray" view of REEVES Variable Speed Transmission

REEVES *Variable Speed Transmission*

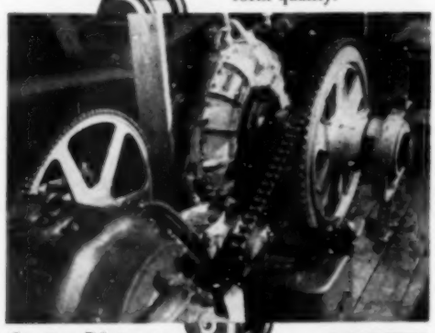
Provides positive, accurate speed changes—without stopping machine—to meet the requirements of every operation and operator, under every changing condition. Easily applied to machines in service—requires no special tools or training to maintain. Horizontal and vertical designs, open or enclosed—in sizes fractional to 87 hp; speed ratios 2:1 through 16:1; manual or automatic controls. Internal operating parts also available for easy incorporation within the framework of your machines. Get full details on the complete REEVES line. Write for free Catalog IN 71-G.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

BREVITY—Identify by IEN - 2432 if you write the maker

NO WASTED POWER WITH *DIAMOND ROLLER CHAINS*

- No slip—machinery operates at maximum output rate continuously.
- 98-99% efficiency at point of use.
- Long life performance reduces down time, maintenance and replacement expense.
- Exclusive Diamond uniform quality.



Center Distances Can Be Long Or Very Short

Shaft to shaft operation can be accomplished without slip regardless of center distances. The wide range of types and sizes of Stock Sprockets meet most all Roller Chain Drive requirements.

A copy of Catalog 709 is yours for the asking.

DIAMOND CHAIN CO., Inc.
Dept. 465, 402 Kentucky Avenue,
Indianapolis 7, Indiana

Offices and Distributors in All Principal Cities

Refer to the classified section of your local telephone directory under the heading CHAINS or CHAINS-ROLLER

DIAMOND ROLLER CHAINS

▼ BREVITY—Identify by IEN - 2434 if you write the maker ▼

It also Flatters the Features while

PROTECTING THE EYES!

NEW

Metal Ful-Vue Safety Goggle

You expect protection in a safety goggle and you certainly get it in the new, strongly constructed AO F 4100 Safety Goggle with its 6 curve super armorplate lenses, new eyewire, rugged endpieces, double braced bridge and other quality features. But what's more, it's protection that workers are glad to wear because this goggle is good looking as well as functional. Your nearest AO Safety Products Representative can supply it—with or without side shields.

American Optical COMPANY SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

▼ BREVITY—Identify by IEN - 2435 if you write the maker ▼

These big, rugged, heavy-duty MICRO-LIMIT Precision Switches are adaptable to all types of industrial equipment

MICRO 5 ML1—Roller plunger actuator switch. Roller plunger is mounted in the top of the plunger. Actuator head can be rotated 90°, means of actuation may approach from any of four directions.

MICRO 1 ML1—Adjustable roller arm actuator switch. Field adjustable to any of four positions. Roller arm assembly adjustable to any of 870 positive lock positions through 360 degrees at intervals of 0.4 degrees.

MICRO 2 ML1—Heavy duty plunger actuator switch. Gives long, accurate repeatability in severe limit of motion service. Pre-travel is limited to .025 inch and the Differential travel is a maximum of .005 inch.

• Plant engineers who are looking for sturdy, heavy-duty precision switches for limits, safeties and interlocks on all types of plant machinery will find these Type "ML" MICRO-LIMIT precision switches will give long-life dependable operation. The enclosures and the basic switches are the same on all three models. The three different types of actuators, with their features of adjustability, make these switches easily adaptable to practically any heavy-duty use.

Plant engineers find their wide range of field adjustability of actuators makes them easily adaptable to all types of machinery and industrial equipment.

MICRO SWITCH Distributors are located in 122 cities. Look for them under "Switches, Electric" in your classified phone book.

MICRO MS SWITCH

FREEPORT, ILLINOIS

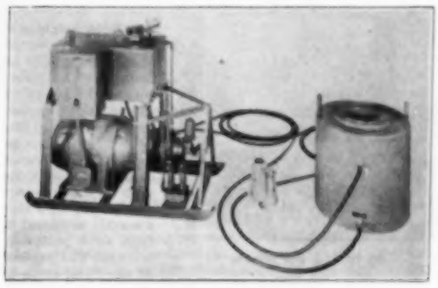
MICRO Snap-Action Switches . . . Honeywell Mercury Switches

A Division of Minneapolis-Honeywell Regulator Company

▼ BREVITY—Identify by IEN - 2437 if you write the maker ▼

JACK . . Motor driven hydraulic rates 600 ton, has 6½ in. travel

Source: TEMPLETON KENLY & CO.
1012 S. Central Ave., Chicago 44, Ill.



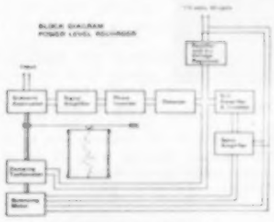
For that heavy lift

A load is picked up by operating the hose-connected motor-driven hydraulic equipment forming a part of this new jack assembly. Final movement is made by operating hand pumps to obtain the desired exact position. The jack itself measures 22 by 21 in. and has a 7¾ in. center hole. It can be employed to push or pull vertically or horizontally. Between it and the motor-driven equipment, in the illustration, is one of the company's standard Jenny hand-hydraulic jacks for size comparison. The jack without the power pumping equipment shown to the left weighs 1,750 pounds.

▼ BREVITY—Identify by IEN - 2438 if you write the maker ▼

RECORDING . . Electronic equipment for radiation, frequency, attenuation

Source: LEEDS & NORTHRUP CO.
4934 Stenton Ave., Philadelphia 44, Pa.



Ask for Folder ND46-51

Radiation patterns of antennae, frequency characteristics of circuit components, attenuation of transmission lines can be measured and continuously recorded by this new power-level recorder. The record is made by attenuating the input signal to match a constant internal reference voltage. Full - scale reading is 20, 30, 40, 50 or 60 decibels above a reference level of 0.0002 milliwatt.

Feature in the design is the square-law detector which handles an input composed of two or more components of different frequency so their relative phase angles have no effect on the mean detector output. The record is made on a 10-in. strip chart with a scale linearly calibrated in decibels.

The test signal to be measured is connected, as shown in the block diagram, to the input terminals of a continuously adjustable slidewire attenuator. The slidewire contactor and its mechanically coupled pen are moved by a motor controlled electronically until the signal reaches reference level voltage.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2439 if you write the maker ▼

CASTELL

PUSH BUTTON **LOCKTITE**

the perfectly balanced holder
(black or colored)

An indispensable drawing tool for professional men everywhere — because LOCKTITE holds lead in bulldog grip, prevents it sliding back into holder. Reduces smearing and smudging, because your fingers never touch the graphite, except when refilling. Order from your Dealer today.

No. 9030
CASTELL Refill IMPORTED
Master Degree Leads
7B to 9H

Reproduces more clean, sharp blueprints than any other lead.

The same wonderful imported leads that you get in the CASTELL wood pencil. Usable in all standard holders. Also available in red, blue, green, yellow, carmine, orange, white and silver.

A.W. FABER-CASTELL PENCIL COMPANY, INC. NEWARK N. J.

CASTELL the drawing pencil with the Master Degrees

▼ BREVITY—Identify by IEN - 2440 if you write the maker ▼

be fresh stay fresh

wear **COVER'S FOG-PROOF GOGGLES**

FAMOUS **"Nod & Shake" Type**

Used by thousands, for years, to protect eyes against paint spray, gases, dusts, fumes, smoke. Can be worn with any make respirator. Frames are of soft, pliable rubber that give air-tight fit on any shape face. A few drops of water placed in patented groove keeps fog from forming on inside of single lenses. An easy nod and shake of the head keeps lenses clear indefinitely.

Sample sent **$2.00 pp**

H. S. COVER, South Bend, Ind.

▼ BREVITY—Identify by IEN - 2441 if you write the maker ▼

Want anything ELECTRONIC without waiting 6 months?

Tell us. We'll design it, make it, deliver it — 6 or 6000 — NOW, immediately, pronto!

If it's ELECTRONIC, we can do the . . .

- ☐ Designing
- ☐ Engineering
- ☐ Drafting
- ☐ Development
- ☐ Model Making
- ☐ Assembly
- ☐ Production
- ☐ Prepare Manuals

THINGS WE CAN DO:

Our electronic know-how enables us to make *Closed-circuit Television Systems for Remote Visual Control* . . . Relay Systems . . . *Special Instruments* . . . Devices to Control Machine Operations, *Turn Lights On and Off*, Open and Close Doors, *Record Production Figures*, Start and Stop Furnaces, *Inspect Products for Flaws*, Observe Remote Conditions, *Prevent Unauthorized Entry*, Talk Between Departments, *Prevent Machine Overload*, Sound Alarms and Signals, *Count Production Automatically*, Keep Shop Trucks out of Trouble, etc., etc.

We Can Build Electronic Equipment To Meet Your Requirements:
(1) *a built-in component in your own product* . . . (2) *to meet a need in your own plant* . . . (3) *for a product you can buy from us better than making it yourself.*

We are now doing defense sub-contract work for leading industrial concerns.

Write, wire, or phone today:

TRANSVISION, INC. *Electronics Div.*
NEW ROCHELLE, N. Y. • *NEw Rochelle 6-6000*

Transvision, Inc., *Electronics Div.*
New Rochelle, N. Y.

☐ Please send us list of your facilities
☐ Have your field representative call on us

Company _____
Street _____
City _____ Zone _____ State _____
Attention _____
Our problem is _____

▼ BREVITY—Identify by IEN - 2443 if you write the maker ▼

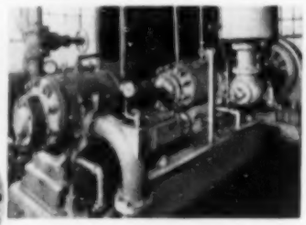
"HET UP" about YOUR wasteful heating SET UP? change to THERMOLIER UNIT HEATERS

Thermoliers provide quick heating from a cold start. Desired room temperatures are easily maintained within a close range. Moreover, heat is forced down to the working level . . . not banked uselessly at the ceiling. The units and the simple piping are overhead where they do not interfere with arrangement of the operating machinery or equipment. Write for Thermolier Catalog.

GRINNELL
THERMOLIER UNIT HEATERS
Grinnell Company, Inc., Providence, R. I.
Coast-to-coast Network of Branch Warehouses and Distributors

▼ BREVITY—Identify by IEN - 2444 if you write the maker ▼

SOUND LUNGS FOR INDUSTRY



Forging plant. Two-stage rotary compressor. Capacity 1665 c.f.m., 100-lb. pressure.

FULLER Rotary Compressors

Fuller Rotary Compressors are first choice for dependability in many plants. That's only natural, because Fuller engineers and builds for trouble-free, long-term, low-cost operation. They have few moving parts . . . need little attention and infrequent inspection. Maintenance is low . . . there are no valves to leak or seats to grind; blades automatically compensate for wear. *Full capacity is maintained for the life of the machine.*

We'll be glad to show you how Fuller Rotaries can go on your payroll at the minimum wage. Get in touch with us . . . or write for Bulletin C-5.

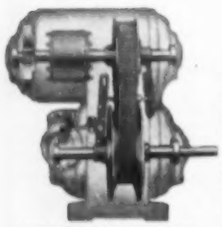
C-211

FULLER COMPANY, Catasauqua, Pa.
190 S. LaSalle St., Chicago 3—420 Chancery Bldg., San Francisco 4

▼ BREVITY—Identify by IEN - 2445 if you write the maker ▼

SPEED-TROLS INCREASE MACHINE OUTPUT 20%

When Morehouse Industries equipped the input pump on the latest model mustard mills with Speed-Trol, we increased output 20%, improved uniformity of product and product quality, reports Mr. J. P. Smout. We attribute these advantages to Speed-Trol's accurate speed regulation, wide speed range, infinite speed variation.



70 ILLUSTRATIONS showing how Sterling Electric Power Drives reduce production costs. Write for Bulletin No. **B-127.**

STERLING SPEED-TROL

OUTSTANDING FEATURES: Infinite speeds—positive speed regulation—fingertip control—large indicator—positive pulleys—no springs—belt tension in proportion to load—protected—streamlined—Herringbone Rotor—through ventilation—versatile mounting—NEMA dimensions—shock absorbing—quiet operation—rugged—compact—dependable—long life.

STERLING ELECTRIC MOTORS

Plants: New York City 51; Van Wert, Ohio; Los Angeles 22; Hamilton, Canada; Santiago, Chile. • Offices and distributors in all principal cities.

▼ BREVITY—Identify by IEN - 2446 if you write the maker ▼

WEIGHING . . Electronic scale sorts and delivers objects by weight

Source: TOLEDO SCALE CO.
Telegraph Road, Toledo 12, Ohio

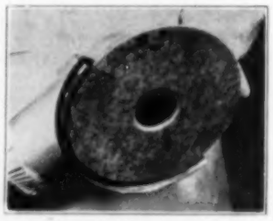
60 to 100 per minute

Objects weighing 4 oz. to 10 lb. are sorted and delivered into as many as eight different weight zones as they ride over a motor-driven belt in this new No. 9545 Dynamic Classifier. As each object moves with the belt an interceptor with a bar and slot assembly is passed in front of a photoelectric cell. The number of bars and slots to pass depends on the weight and transmits accordingly to an electronic counter. The counter then actuates a solenoid to open that gate at the delivery end which corresponds with the object weight. The object then passes through into its correct weight zone. Accuracy is within 0.2 per cent.

▼ BREVITY—Identify by IEN - 2447 if you write the maker ▼

GRINDING . . Hub type wheel for use on standard type portable tool

Source: NORTON CO.
36 New Bond St., Worcester 6, Mass.



To grind or notch

Type BFR, in which "B" stands for resinoid, "F" for fibre construction and "R" for reinforced, identifies a new hub-type grinding wheel. It is made of hardened web material impregnated with abrasive grain. It is flexible to use in blending contours. It does a good polishing job. It will smooth down welds, blend surfaces on contours and notch risers in connection with casting clean-up work. A safety web at the back of the wheel holds the pieces together in case the wheel breaks until rotation can be stopped.

▼ BREVITY—Identify by IEN - 2448 if you write the maker ▼

LIGHTING . . Shadow-free luminous ceilings employing translucent plastic pictured in 24-page booklet

Rohm & Haas Co.
220-24 Washington Square, Philadelphia 5, Pa.

Luminous ceilings for offices, drafting rooms, laboratories, reception rooms, control rooms, wherever glareproof, shadowless evenly distributed illumination is an advantage, are pictured and described in the new Booklet PL-25, "Plexiglas for Luminous Ceiling." Function of the plastic to diffuse light from concealed fixtures is explained and illustrated. Included is a technical section to assist in design and selection.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2449 if you write the maker ▼

Reduce your refractory Costs with...

Johns-Manville FIRECRETE*

Cast your own refractory shapes and linings with J-M Firecrete . . . ready within 24 hours.

3X Firecrete—3000F Refractory Concrete, for linings and special shapes subjected to *3000F soaking temperatures.*

H. T. Firecrete—High Heat Duty Refractory Concrete for exposure to 2400F-2800F.

Standard Firecrete—Intermediate Heat Duty Refractory Concrete for monolithic constructions to 2400F.

L. W. Firecrete—Insulating Refractory Concrete—For direct exposure to 2400F.

*Reg. U. S. Pat. Off.

Johns-Manville BLAZECRETE*

Build and repair refractory linings with J-M Blazecrete. Applied by slap troweling or gunning. Ready for use overnight.

3X Blazecrete—3000F Hydraulic Setting Refractory for heavy patching. *Withstands soaking heat to 3000F.*

Standard Blazecrete—Intermediate Heat Duty Hydraulic Setting Refractory. Builds and repairs linings up to 2400F.

L. W. Blazecrete—Hydraulic Setting Insulating Refractory for temperatures to 2000F.

For further information, write Johns-Manville, Box 290, New York 16, N. Y.

JM Johns-Manville REFRACTORY PRODUCTS

▼ BREVITY—Identify by IEN - 2450 if you write the maker ▼

PAINT CONDITIONING SERVICE

Thousands of paint and hardware dealers from coast-to-coast enliven every can of paint they sell on an electric RED DEVIL PAINT CONDITIONER. Automatically this machine gives 700 shakes a minute—placing the pigments in full solution with smooth creamy consistency and perfect color distribution. *"Conditioned"* paint needs no stirring on the job, is easier to apply, and covers longer.

RED DEVIL PAINT CONDITIONERS are also used in industry and trade for mixing of other fluids, etc. — information on request.

RED DEVIL TOOLS, IRVINGTON 11, NEW JERSEY, U. S. A.

▼ BREVITY—Identify by IEN - 2451 if you write the maker ▼

how to keep a tight, high velocity BLAST CLEANING STREAM

When blast nozzles are protected with BORIUM inserts you save many ways: Because BORIUM (pure tungsten carbide) is so very hard and wear-resistant, orifices hold original size many times longer; high velocity, harder-hitting blast particles stay tightly concentrated on target for quicker clean-ups. Less compressed air is used, cutting power bills. One BORIUM nozzle outlasts hundreds of cast iron nozzles, when used with most common abrasives; avoids frequent nozzle changes! Why not try them?

Ask for Free Circular showing standard and special BORIUM nozzle designs, or send blueprints for quotation.

STOODY COMPANY
11930 E. Slauson Avenue
Whittier, California

▼ BREVITY—Identify by IEN - 2452 if you write the maker ▼

MERRILL MATERIALS HANDLING DEVICES

3-M-2

MERRILL BROTHERS
56-14 ARNOLD AVENUE MASPETH, N. Y.

▼ BREVITY—Identify by IEN - 2453 If you write the maker ▼

plant proved....

ALEMITE HAND GUNS

Save grease! Save time! Cut production costs!

Alemite Lever Gun—Model 1056-SE. For pressure gun lubricants. Develops up to 10,000 lbs. pressure. Positive delivery assured by heavy priming spring behind neoprene follower. 1 lb. capacity. Loader fitting.

Alemite Lever Gun—Model 6243-J. High pressure piston (up to 10,000 lbs. easily). Combination spring and vacuum priming. 21 oz. capacity. Loader fitting.

Just Out! Now Alemite Industrial Equipment Catalogue. Send now for your FREE copy. Write Alemite, Dept. K-32, 1850 Diversey Pkwy., Chicago, Ill.

SW **ALEMITE**

Modern Lubrication Methods That Cut Production Costs

▼ BREVITY—Identify by IEN - 2454 If you write the maker ▼

It has a "Mathematical Eye" for Distance

Added Evidence that...

Everyone Can Count on VEEDER-ROOT

Here's still another good soldier, on a highly special assignment. With contact assembly, it counts miles and yards, when used in conjunction with other equipment. And it also makes contacts on *predetermined* readings . . . *direct* readings that need no translation.

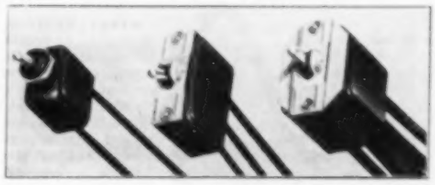
Now, as the counting process comes to be counted as more and more indispensable to all types of defense materiel, what might we do...*especially for you?* Just say when you'd like to get together...*and start figuring.*

VEEDER-ROOT INCORPORATED
HARTFORD 1, CONN.

▼ BREVITY—Identify by IEN - 2456 If you write the maker ▼

SWITCH . . Toggle design, completely waterproof, 20 to 200 amp.

Source: RIVERSIDE MFG. & ELECTRICAL SUPPLY CO.
10226-30 Michigan Ave., Dearborn, Mich.



For equipment, appliances, vehicles

Molded-rubber housing encloses the mechanism in this new switch. Water-proof lead wires are vulcanized into the housing. Waterproof connectors can be specified. The toggle action provides for momentary or "hold" movement between open and closed circuit. Single and double-pole in single and double-throw combinations are available. Sizes range from 1⅝ by 1¼ in. to 2⅛ by 1⅝ by 1½ inches.

▼ BREVITY—Identify by IEN - 2457 If you write the maker ▼

PAINTING . . Ready mixed gray for interior and exterior masonry

Source: SMOOTH-ON MFG. CO.
566-70 Communipaw Ave., Jersey City 4, N. J.

$1.50 per quart
$5 per gallon

One gallon of the company's new concrete paint covers about 400 sq. ft. in one coat which usually is sufficient to set up adequate resistance to surface attack by water, acids, alkalis. The coated surface can be washed. No primer or sealer is required. Application can be made on painted or unpainted surfaces of concrete, brick, stone, cement blocks, dry or damp.

▼ BREVITY—Identify by IEN - 2458 If you write the maker ▼

METER . . Indicates flow rate of small quantities of gas or air

Source: F. W. DWYER MFG. CO.
307 S. Western Ave., Chicago 12, Ill.

Stops bubble counting

Transparent plastic, measuring 1 by 1 by 3⅝ in., is bored for the pipe connections at the top and bottom and also to provide the tapered metering tube in this new flow meter. Multiple units are available in which two or more metering passages and connections are mounted in a single block 1 in. in block width for each passage. Flow rates for air or gas are 0 to 2 to 10 cfh. Special assemblies are available for a range for air-flow through each metering passage between 0 and 3 cfm. with pressure at 75 pounds. Face of the meter carries a scale.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

▼ BREVITY—Identify by IEN - 2459 If you write the maker ▼

NOW... close tolerance finishes in seconds in the new LIQUAMATTE

Close tolerance finishing is now done in a fraction of the time by Liquamatte Wet Blasting. Liquamatte's simplified design overcomes many operating difficulties often found in wet blasting. It is push-button controlled. An exclusive vertical pump eliminates leakage, shaft wear and plugging troubles. The hopper is completely drained in seconds without bailing. *Send for descriptive Bulletin No. 23.*

American LIQUAMATTE WET BLASTING
WHEELABRATOR & EQUIPMENT CORP.
507 S. Byrkit St., Mishawaka, Ind.

▼ BREVITY—Identify by IEN - 2460 If you write the maker ▼

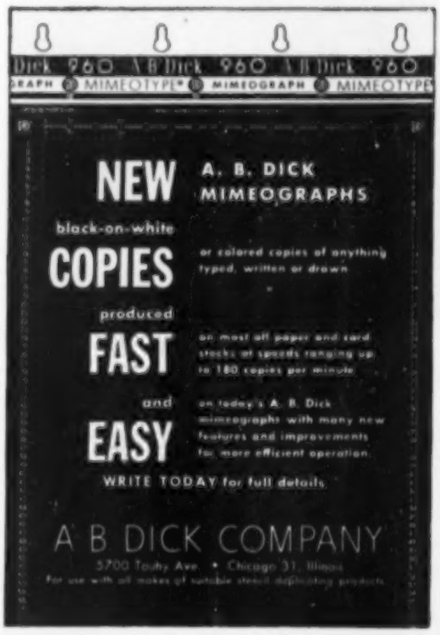
HANSEN • THE TACKER with 1001 USES

ASSEMBLY of wood veneers is speeded up, saving time, labor and material, for Gibson, Inc., Kalamazoo, Mich., with the Hansen Model T-2 Tacker. Tacking operation makes loading of hydraulic presses easier, improves handling and prevents veneers slipping.

In every conceivable industry, Hansen Tackers are making a record for themselves—automotive, radio, aviation, building, plastics, woodworking, shipping, display. What is your problem? Submit sample or sketch, with details.

HANSEN **A.L. HANSEN MFG. CO.**
5051 RAVENSWOOD AVE.
CHICAGO 40, ILL.

▼ BREVITY—Identify by IEN - 2461 If you write the maker ▼



NEW A. B. DICK MIMEOGRAPHS

black-on-white COPIES or colored copies of anything typed, written or drawn

produced FAST on most all paper and card stocks at speeds ranging up to 180 copies per minute

and EASY on today's A. B. Dick mimeographs with many new features and improvements for more efficient operation.

WRITE TODAY for full details.

A B DICK COMPANY
5700 Touhy Ave. • Chicago 31, Illinois
For use with all makes of suitable stencil duplicating products

▼ BREVITY—Identify by IEN - 2462 If you write the maker ▼

Finer Finishes Faster!

ELGIN DIAMOND in DYMO Diamond Compound

Pure, virgin diamond in an exclusive field-proved vehicle gives you maximum cutting speed. Certification to Bureau of Standards requirements is your assurance of dependable, predictable results. Write for free demonstration.

ABRASIVES DIVISION
ELGIN NATIONAL WATCH COMPANY
ELGIN, ILLINOIS

BREVITY—Identify by IEN - 2463 If you write the maker

PILLOW BLOCK BALANCING WAYS

Built in
1,000
2,000
5,000
10,000
20,000
Capacities

Especially suited for large diameter work, as a sub-base can be made of proper height to give necessary clearance for work. Anderson Pillow Block Balancing Ways are precision built with chilled iron discs which rotate with minimum friction on sensitive special bearings. Many manufacturers have endorsed them for efficient, static balancing.

Write for Bulletin No. 3-35

ANDERSON BROS. MFG. CO., Rockford, Ill.

Balancing Ways, Rota Checkers, Hand and Power Scrapers, Spotters, Hand and Power Hydraulic Straightening Presses.

BREVITY—Identify by IEN - 2464 If you write the maker

Generalift PALLET BOXES

1. CUT MATERIALS HANDLING COSTS
2. REDUCE STORAGE COSTS

SEND FOR FREE BOOKLET

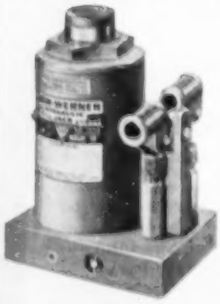
General BOX COMPANY

GENERAL OFFICES:
1815 MINER STREET, DES PLAINES, ILL.

DISTRICT OFFICES AND PLANTS: Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, General Box Company of Mississippi, Meridian, Miss., Milwaukee, Sheboygan, Winchendon. Continental Box Company, Inc.: Houston, Dallas.

BREVITY—Identify by IEN - 2465 If you write the maker

it's POWERFUL... it's a HEIN-WERNER!



On small jobs, or big jobs wherever powerful hydraulic force is needed — you'll find a Hein-Werner Hydraulic Jack will fill the bill.

Every model in this line is powerful — dependable — versatile. A Hein-Werner Jack can be effectively used for lifting, pushing, pulling, bending, straightening, and pressing operations.

Made in models of 4, 5, 8, 12, 20, 30, 50, and 100-ton capacity. See your industrial distributor, or write us for details.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION
Waukesha, Wis.

BREVITY—Identify by IEN - 2466 If you write the maker

CUTTING . . Acetylene torch machine for regular and irregular outlines

Source: AIR REDUCTION SALES CO.
1656 Lincoln Bldg., New York 17, N. Y.

Ask for Bulletin ADC 673

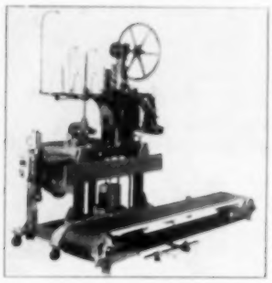
Straight lines, circles, arcs, square or beveled edges, irregular shapes can be cut with this new No. 20 Radiagraph machine. It can be employed with equipment such as the Aircomatic machine, the Heliweld machine holder, filler - wire feeder, flame - hardening torch. The governed motor drive provides for accurate work, quick response, vibration-free action. Knurled wheels assure good traction on a track or plate. A brake on one drive wheel eliminates backlash in operation.

Travel speed is 2 to 12 ipm. in a low range, 10 to 60 ipm. in a high range. Dimensions are 21½ by 10½ by 6 inches. Weight is 57 lb. without accessories.

BREVITY—Identify by IEN - 2467 If you write the maker

SEWING . . Bag closing machine for medium to large, textile or paper

Source: UNION SPECIAL MACHINE CO.
402 N. Franklin St., Chicago 10, Ill.



Ask for Bulletin 200

Style 21800-P is a new assembly of table-mounted sewing head and 6-ft. belt conveyor with height adjustment to close medium to large textile or paper bags on a production line basis. Style 21800-R is a similar machine for use with a Vibrox packer. Either design rates 2,800 to 3,800 bags per day with bag weight at 100 pounds. The conveyor mounts a 12-in. belt. Overall dimensions are 80 by 54 by 76 inches.

To assist users in selection of the correct equipment in the overall bag-closing line, the company has prepared a new 16-page booklet. In this booklet are tabulations showing the characteristics of heads and machines. A user can match these characteristics against his known conditions.

In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50 All Makers of These And All Other Products Are Listed

Non-Ferrous Scrap is Needed

BREVITY—Identify by IEN - 2468 If you write the maker

LIGHTNING-FAST ELECTROPUNCH

WIDELY USED TO

PRODUCES UP TO **10,000** PIECES PER HR.

This versatile low cost electric impact hammer produces up to 10,000 pieces per hour using automatic switching — as high as 5,000 pieces per hour with hand or foot switching. Ideal for steel stamping, inspection or identification marks on small defense parts.

ELECTROPUNCH is portable — plugs into any 115 V A. C. outlet. Lightest model (illustrated) sells for only $90.75.

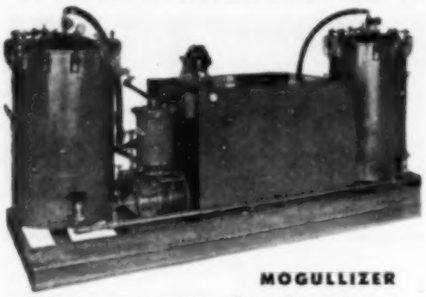
ELECTROPUNCH quickly pays for itself. Investigate its possible applications in your plant now!

Write for descriptive folder.

BLACK & WEBSTER, INC.
Dept. 17, 445 Watertown St., Newton 58, Mass.
Phone: Frank Webster — Bigelow 4-6370

BEND PUNCH DIMPLE

BREVITY—Identify by IEN - 2469 If you write the maker



MOGULLIZER

Eliminates Leaky Castings

If your contract calls for impregnation, or if your production castings leak or weep and will not hold pressure, investigate our Mogullizing system—a high vacuum and pressure method of sealing castings. Models to meet your requirements.

Any standard impregnating material can be used but for top efficiency we recommend our Mogul Cast Seal.

Prompt deliveries.

Write today for full details on the Mogullizing system.

METALLIZING COMPANY OF AMERICA
3520 W. Carroll Avenue • Chicago 24, Ill.

BREVITY—Identify by IEN - 2470 If you write the maker

FREE "MACHINE KNIVES" CATALOG

Write today for your free copy of 2-color catalog illustrating and describing Taylor-Stiles machine knives. Included are fly and bed knives, planer knives (of laid carbon steel and thin high speed steel), moulding knives, and others.

We have manufactured machine knives for 88 years. Users of our knives include many of America's leading manufacturers.

In our line, described in this catalog, are laid carbon steel, solid carbon steel, and high speed steel knives.

TAYLOR-STILES and Company
CUTTING MACHINES EXECUTED

Write for your copy of "Machine Knives" today.

44 Bridge St. Riegelsville, N. J.

BREVITY—Identify by IEN - 2471 If you write the maker

DETECTO SCALES

There's a precision-accurate Detecto Scale for your specific weighing and counting need. The Detecto helps increase production, yet assures you maximum accuracy by making slightest weight discrepancies immediately visible.

DETECTO-GRAM RATIO COUNTING SCALE

Another Detecto-Gram Scale to speed counting operations. Model #1743 has a special counting tray attached to the beam for use when counting in odd amounts.

Write for Literature

DETECTO SCALES · INC.
MAKERS OF FINE SCALES SINCE 1900
6832 PARK AVENUE • BROOKLYN 8, N. Y.
SCALE ENGINEERS IN ALL PRINCIPAL CITIES

▼ BREVITY—Identify by IEN - 2472 if you write the maker ▼

Bendix-Friez THERMISTORS

(NEGATIVE TEMPERATURE CO-EFFICIENT CERAMIC RESISTORS)

● These temperature responsive resistors are useful as temperature measuring elements and as liquid level sensors; they are especially well suited to compensation where the circuit constants must be maintained irrespective of temperature changes. Since they are a fired ceramic, they are stable under practically all conditions and respond only to temperature changes.

Typical application in capsule form for temperature sensing of hydraulic oil.

Many other values can be obtained from standard diameter material. Because the thermistors are made in our own plant, under extremely careful control, special compositions, shapes, and resistance values, hermetically sealed or otherwise protected, can be made in any quantities to suit your individual requirements.

We invite your Inquiries Write Dept. H

BENDIX-FRIEZ STANDARD ROD TYPES

Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x ¾	45 ohms	88 ohms	193 ohms
.040 x 1.5	14,000 ohms	29,948 ohms	74,676 ohms
.018 x 1.5	40,000 ohms	94,040 ohms	262,400 ohms

FRIEZ INSTRUMENT DIVISION of Bendix Aviation Corporation
1338 Taylor Avenue — Baltimore 4, Maryland
Export Sales: Bendix International Division, 72 Fifth Ave., N.Y. 11, N.Y.

▼ BREVITY—Identify by IEN - 2473 if you write the maker ▼

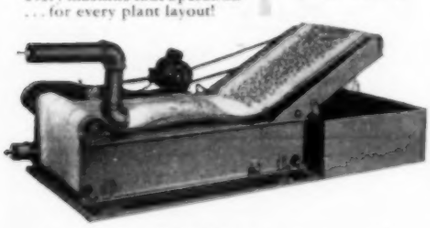
Honan-Crane Puts the Emphasis on . . .

"See for yourself"

What can efficient Coolant Filtration do for *YOU? See for yourself* at the TOOL SHOW . . . where Honan-Crane demonstrates Coolant Filtration equipment designed to reduce operating costs . . . prolong tool life . . . reduce "rejects" . . . permit better product finishes in every machine tool operation . . . for every plant layout!

at the ASTE tool show booth 1716

Chicago, March 17-21



NEW Houdaille Web-Type Continuous Self-Cleaning COOLANT FILTER

for individual machine tools or small central coolant systems

Compact, automatic filtering unit utilizes continuously rotating filter belt that cleans itself, gives long, efficient service. Handles large volume of coolant in minimum floor space. 40 GPM model only 69½" x 39½" x 28½". Degree of filtration may be varied. Ideal for all types of grinders, broaches, drilling, lapping, milling machines, etc., wherever a mineral or soluble oil coolant is used. Available in capacities from 40 to 400 GPM.

See it Work at the Tool Show

See Them Work at the Tool Show

- **HOUDAILLE AUTOMATIC CLARIFIER** for large central coolant systems
- **HOUDAILLE MAGNETIC FILTER** for individual machine tools
- **HOUDAILLE MOBILE COOLANT FILTER** lets one man service many machines
- **HOUDAILLE SUMP CLEANER** saves maintenance man-hours on cleaning
- **HOUDAILLE CONVEYOR** for continuous chip and waste removal
- **HONAN-CRANE "C" TYPE PURIFIER** combination filter and purifier
- **HOUDAILLE "T" TYPE CLARIFIER** for individual machine tools

If you can't get to the Tool Show, be sure to write for equipment bulletins giving complete information and specifications on Coolant Filtration and Handling equipment described above.

WORLD LEADING OIL FILTER MANUFACTURER

Honan-Crane Corp.
802 Wabash Avenue, Lebanon, Indiana
A subsidiary of
Houdaille-Hershey Corp.

▼ BREVITY—Identify by IEN - 2475 if you write the maker ▼

DRIVE . . Geared head motor with a built-in hydraulic coupling

Source: REULAND ELECTRIC CO.
Westminster & W. Mission, Alhambra, Calif.

To 10 horsepower

Free start under loaded conditions and ability to cushion the drive through its built-in hydraulic coupling are now supplemented in the company's Fluid Shaft motor by a geared head for output speed at any point between 1 and 600 rpm. The original design, previously described IEN-8442-49, employed the hydraulic coupling only. The new gear assembly is available with single or double reduction.

Squirrel-cage or slip-ring motor can be specified for operation on single or polyphase circuit. Drip-proof and totally-enclosed designs are available. The gears operate in oil. Typical applications are on cranes, conveyors, dryers, car pullers, where loads require smooth acceleration at low speeds.

▼ BREVITY—Identify by IEN - 2476 if you write the maker ▼

STEEL . . Iron silicon alloy to manufacture electric laminations

Source: THOMAS & SKINNER STEEL PRODUCTS CO.
1172 E. 23rd St., Indianapolis 5, Ind.

Standard and special shapes

OrthoSil is a new iron-silicon steel measuring 4 mils in thickness. It has been developed primarily for manufacture of electric laminations to be employed in equipment operating at frequencies between 400 and 2,000 cycles. Transformers, chokes, saturable reactors, filters are representative.

▼ BREVITY—Identify by IEN - 2477 if you write the maker ▼

PIPE . . Weld fittings are made extra heavy in critical areas

Source: KEY CO.
P. O. Box 494-A, Dept. IEN, East St. Louis, Ill.

For high pressures and temperatures

Key-Kast trade names a new line of alloy-steel weld fittings available in specified sizes for standard pipe, in elbows, return bends, tees, reducers, laterals, crosses, flanges of various design. Each fitting is hydrostatically tested before shipment. Each meets ASME, ASTM and ASA codes. A boss is provided for a threaded opening.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

▼ BREVITY—Identify by IEN - 2478 if you write the maker ▼

IN EVERY BALLYMORE LADDER *Safety* IS BUILT-IN, AUTOMATIC

ROLLING CASTERS CARRY LADDER WHEN NOT IN USE

RUBBER TIPPED LEGS "LOCK" TO FLOOR WHEN IN USE

Ballymore Ladders are strong and sturdy. Mounted on smooth running ball-bearing casters they are easily pushed about, yet when in use are perfectly stable, can't roll or kick-out because the weight of a person on the ladder retracts the casters, puts the load onto widely spaced rubber tipped legs. Workers have a positive sense of security that gives them absolute freedom of action.

That's why Ballymore Ladders save time, speed up work, prevent accidents and fear of accidents . . . save money.

Various types, single to eight steps, with and without hand rails.

➡ WRITE TODAY FOR COMPLETE CATALOG

BALLYMORE COMPANY
WAYNE 4, PENNSYLVANIA
Safety Steel Step-Ladders for Every Need

▼ BREVITY—Identify by IEN - 2479 if you write the maker ▼

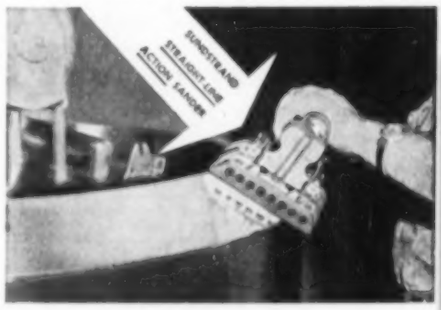
MECHANIZE 4 Scrubbing Operations into 1

with a COMBINATION SCRUBBER-VAC!

Here's a single cleaning unit that completely mechanizes scrubbing. It applies the cleanser, scrubs, rinses if required, and picks up — *in one operation!* The *self-propelled Model 213P* at right, for heavy duty scrubbing of large-area floors, has a 26" brush spread, and *cleans up to 8,750 sq. ft. per hour. Finnell* makes *Scrubber-Vac Machines* in a full range of sizes (no need to *over-buy* or *under-buy*) . . . available on either lease or purchase plan. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2603 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.
Pioneers of Floor Scrubbing and Polishing Machines

▼ BREVITY—Identify by IEN - 2480 if you write the maker ▼



Speeds graining and blending-in of welded seams on stainless steel work

Fast, *smooth* way to carefully finish off seams in stainless steel products. Sundstrand *Straight-Line Action* removes scratches, defects . . . blends-in and grains the seam perfectly after assembly. Sundstrand Air Sanders are available in single or double pad models . . . for wet or dry sanding on flat or curved surfaces . . . to handle almost any sanding operation on wood, metal or plastics. See your local distributor or write us today for bulletin TB-8.

SUNDSTRAND

SUNDSTRAND AIR SANDERS
SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

▼ BREVITY—Identify by IEN - 2481 if you write the maker ▼

On cut-off jobs . . . *This is the saw that* SAVES TIME . . . MONEY . . . MANPOWER

Wells No. 8 with wet cutting system.

WELLS No. 8 METAL CUTTING BAND SAW

Whether it's for production, general utility or both, the Wells No. 8 is an investment that will pay for itself many times over in savings of time, money and manpower. These savings can mean a lot in any shop . . . why not find out what they can mean to you. The Wells No. 8 has a capacity 8" x 16", rectangular, 8" diam., rounds. It is powered by a heavy duty ½ H.P. motor. Other sizes also available. See your Wells Dealer for further information or write for literature.

Wells

Products by Wells are Practical

METAL CUTTING BAND SAWS
WELLS MANUFACTURING CORPORATION
1111 MADISON ST., THREE RIVERS, MICH.

BREVITY—identify by IEN - 2482 if you write the maker

FOR HIGH-SPEED INDUSTRIAL SOLDERING

Use G-E Calrod* Soldering Irons

HERE'S WHY THEY ARE PREFERRED BY . . .

PRODUCTION MEN . . . because they are built tough for long, continuous production line soldering. With calorized or ironclad tips, they stay clean, solder fast and can be easily disassembled.

MANAGEMENT MEN . . . G-E irons last longer and need less service. Exhaustive tests by some of the world's largest soldering iron users show that G-E irons save them money.

MAINTENANCE MEN . . . because superior features, like the cord-strain insulator which withstands a pull of 35 pounds, makes far less maintenance necessary. When it's occasionally necessary, the dependable G-E cartridge heater slips right out for servicing — just pull a pin.

FOR FREE BULLETIN, G-E-I-5P, ask your nearby G-E distributor, or write to Sect. 720-06, General Electric Co., Schenectady, New York.

*Registered Trademark

GENERAL ELECTRIC

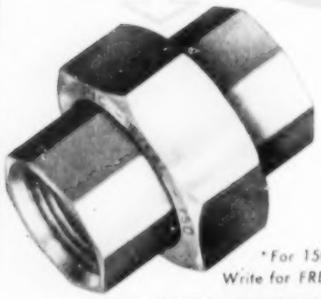
BREVITY—identify by IEN - 2483 if you write the maker

PIC of the Pack!

New Equipment Favorites — 100% Zinc Plated

PIC STEEL UNIONS*

Just the union for makers of original equipment, Pics are bright, good looking . . . and speed assembly and installation of your machines. Open end wrenches can be used because ends are uniformly flat-sided, uniformly parallel. Ends are strong, too — of heavy steel pipe coupling stock. Special wedge type bronze seat assures tightness. Zinc plating (even on threads) for maximum rust protection. And the best news is Pics cost *less* than a galvanized, *no more* than a black malleable union!



*For 150+ Service... Write for FREE SAMPLES

DART UNION COMPANY
130 THURBERS AVENUE, PROVIDENCE 5, R. I.

BREVITY—identify by IEN - 2484 if you write the maker

IT'S THE BEST!

ROCKWOOD ball VALVES

Rockwood ball Valves are best because they last longer with no maintenance — are easy to open and close under pressure and will stay tight in a closed position. They handle many kinds of chemical fluids as well as abrasive or corrosive mixtures without injury to the seat or valve. Thousands of Rockwood ball Valves are giving continuous operation in chemical, food, paper, textile and other process plants, oil refineries and many other types of industries. Made in sizes from ½" to 4" for 300 p.s.i. working pressure. Write today for complete engineering data and prices.

Distributors in all principal cities.

ROCKWOOD SPRINKLER COMPANY
40 HARLOW STREET WORCESTER 5, MASS.

NEWS NOTES

Reviews and announcements to keep you informed on sources of special assistance for your daily problems. Subjects include unusually helpful manufacturers' literature, textbooks of industrial interest, slide films and motion pictures on training or product description, unusual applications of existing equipment, formation of new service organizations, new processes, expositions, conventions. Copies of printed material and films are available. Any limiting conditions are named.

BREVITY—identify by IEN - 2485 if you write the maker

AIR CONDITIONING . . Charts and engineering data to assist in selection of units in sizes to 22,000 cfm.

Buffalo Forge Co.
488-92 Broadway, Buffalo 5, N. Y.

Selection data occupies most of new 40-page Bulletin 3703-A. It starts with a psychrometric chart, tells how to use it, describes a step-by-step procedure on selection of the company's Model G central-type air-conditioning units in sizes from 875 to 22,000 cfm. Following this are tables of coil capacities for direct-expansion and water cooling, steam and hot-water heating, together with a table of speed and horsepower, construction data, dimensions.

BREVITY—identify by IEN - 2486 if you write the maker

CASTINGS . . Application examples on nickel alloy steel castings in picture booklet

International Nickel Co.
67 Wall St., Room 703, New York 5, N. Y.

Cast steel as an engineering material is shown by some 100 captioned illustrations in new 36-page bulletin, "Nickel Alloy Steel Castings in Industry." Many captions include analysis, property figures, performance reports on the parts described. Examples are grouped by application such as railroad equipment, construction, power plants, chemical equipment, mining. Tables of recommended compositions and values are included.

BREVITY—identify by IEN - 2487 if you write the maker

CERAMICS . . How parts are made shown by picture tour through company's plant

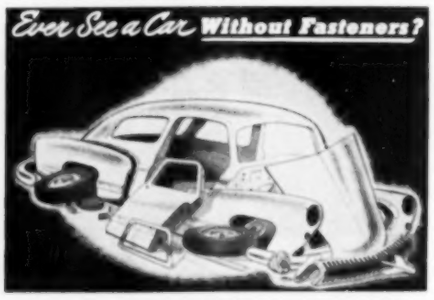
American Lava Corp.
851 Cherokee Blvd., Chattanooga 5, Tenn.

50th Anniversary commemorative booklet shows how ceramic parts are made by means of a picture sequence taken through the company's plant. A flow chart unfolds from inside the back cover of the 48-page publication so you can see where each of the illustrations is located with respect to the manufacturing process. There is a condensed chart of properties and pictures of AISiMag ceramic parts.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Needed — Your Pint of Blood

BREVITY—identify by IEN - 2488 if you write the maker



Approximately 2-1/2% of the steel produced is used to fasten the rest together!

You wouldn't give much for a car like this, would you? Yet that's the way it would look without fasteners.

Yes, fasteners *are* important. That's why it pays to select bolts and nuts for your product as carefully as you select the finish.

Lamson & Sessions

The LAMSON & SESSIONS Co., General Offices, 1914 West 85th Street • Cleveland 2, Ohio
Plants at Cleveland and Kent, Ohio • Birmingham • Chicago

BREVITY—identify by IEN - 2489 if you write the maker

FOR ALL TYPES OF INDUSTRIAL FLOATS

WHEN you order from Chicago Float you're sure of getting high quality, dependable floats, regardless of what your requirements are. You can be sure that every float shipped is backed by more than 35 years' experience in the building of floats for every purpose — high or low pressures and temperatures, corrosive fluids, open tank applications or other specific uses. For everything in industrial floats, look to Chicago Float Works.

A COMPLETE LINE

- **STAINLESS STEEL** — Diameters from 2" to 10". Spherical shape.
- **COPPER** — Diameters from 2" to 12". Shapes: Spherical, oval, cylindrical (flat or radius heads and with or without internal reinforcements or wear bands), column type, and disc type.
- **MONEL, NICKEL, BRASS** — Diameters from 2" to 10". Spherical and cylindrical shapes.
- **ALUMINUM** — Diameters from 4" to 12". Spherical and cylindrical shapes.
- **STEEL** — Diameters from 2" to 14". Spherical shapes.

SEND FOR FLOAT CATALOG

CHICAGO FLOAT WORKS, INC.
2326 South Western Avenue • Chicago 8, Illinois

BREVITY—identify by IEN - 2490 if you write the maker

SAVES WHEREVER IT SERVES!

Here's an economical hoist that goes places to give production a lift. It's the *portable* 'Budgit' Aluminum Chain Block. The ½-ton size weighs only 29 lbs. Lift, carry, hang up, operate — all four are a one-man cinch. A hand chain pull of only 25 lbs lifts 500 lbs. Available in ¼, ½, 1, and 2 tons capacities.

Keep defense production rolling. Get those spot-lifting jobs handled in double-quick time, easily, safely. Use the tough, efficient 'Budgit' Aluminum Chain Block. You'll save on every lift for years to come. All details in Bulletin 398. Write for copy.

'Budgit' CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, and 'American' Industrial Instruments.

BREVITY—identify by IEN - 2491 if you write the maker

over 500 cuts to a sharpening with *QUIJADA* E-Z cutter

You get more cuts per sharpening of cutter wheel with E-Z cutter because the ROLLERS ARE POWER DRIVEN . . . cutter is always cutting, never slipping. E-Z cutter will cut pipe, tubing or conduit up to 4 in. diameter. It's portable too! E-Z cutter weighs only 100 pounds. Now, for the first time, a power cutter is feasible even on smaller jobs. Use anywhere there is power. *If you aren't using E-Z cutter you're losing money.*

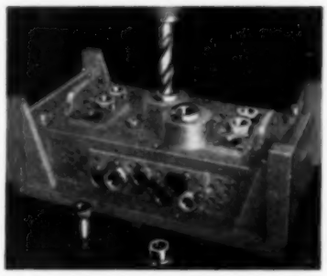
SEE YOUR JOBBER OR WRITE FOR CATALOG #IE3

QUIJADA TOOL CO., INC.
5474 ALHAMBRA AVE., LOS ANGELES 32, CALIF.

▼ BREVITY—identify by IEN - 2492 if you write the maker ▼

EX-CELL-O BUSHINGS

On the Job!



Shown above is a jig illustrating the use of Ex-Cell-O Drill Jig Bushings. Note the various types—headless press fit, head type press fit, and slip renewable bushings—three of the many types carried in stock and described and pictured in Ex-Cell-O's bushing catalog—yours for the asking—Bulletin 35371.

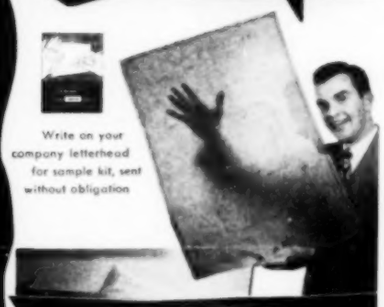
XLO

51-29

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

▼ BREVITY—identify by IEN - 2493 if you write the maker ▼

TEST IT FREE! Samples of VELLUM are yours for the asking. Send for this kit today.



Write on your company letterhead for sample kit, sent without obligation

Ageproof VELLUM

Permanently super-transparent AGEPROOF makes better prints now, or years from now

This is the famous Dietzgen vellum that combines a perfect drafting surface with perfect reproduction qualities. And AGEPROOF VELLUM cannot turn yellow, become brittle or lose transparency with age.

Plasticized through and through, AGEPROOF VELLUM contains no oil, no wax to bleed, become rancid or turn color. Because the plastic transparentizing agent permeates every fibre, you can erase repeatedly without troublesome ghosts occurring in prints, and redraw without feathered lines if you are using ink.

Available in three different weights, in frost-white or eye-easing blue. Test AGEPROOF VELLUM and you'll never use any other material for important tracings.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco New Orleans • Los Angeles • Pittsburgh • Washington • Philadelphia Milwaukee • Dealers in All Principal Cities

DIETZGEN
EVERYTHING FOR DRAFTING SURVEYING & PRINTMAKING

Free Samples!

NEWS NOTES—Continued

▼ BREVITY—identify by IEN - 2495 if you write the maker ▼

ALLOYS . . For wear-resistant machine parts the subject of new bulletin that offers technical help

Haynes Stellite Co.
723-27 S. Lindsay St., Kokomo, Ind.

Information form is bound into new 28-page Bulletin F-7158 so you can ask without obligation an engineering recommendation on a "Haynes" alloy for machine parts subject to wear, corrosion, heat. Cobalt-base, iron-base, nickel-base alloys are described as to properties. Dimensioned drawings and tables show typical parts such as bushings, centers, wear strips.

▼ BREVITY—identify by IEN - 2496 if you write the maker ▼

CABLE . . Splicing instructions for single-conductor insulated electric cable

Okonite Co.
30 Canal St., Passaic, N. J.

Sectional line drawings and step-by-step instructions are given in new 8-page Bulletin OK-1055 for a straight splice, a tee splice and a termination for Okolite-Okoprene single-conductor non-shielded cable in service to 5,000 volts. Tools and materials required, thickness and length of insulation, a chart for estimating tape quantity are included.

▼ BREVITY—identify by IEN - 2497 if you write the maker ▼

CLEANING . . Where to use chilled iron abrasive in blast cleaning and metal peening described in booklet

Hickman, Williams & Co.
230 N. Michigan Ave., Chicago 1, Ill.

Question and answer method is employed by new 16-page "Primer on the Use of Shot and Grit" to state the functions of a blast-cleaning abrasive, characteristics desired, properties of chilled-iron abrasives in general, properties of the company's materials, annealed abrasives. The booklet concludes with a test offer to try Controlled "T" Permabrasive shot.

▼ BREVITY—identify by IEN - 2498 if you write the maker ▼

CONTRACT WORK . . Pictures show facilities for instruments and instrument tooling in house paper

Daco Machine & Tool Co.
200-04 Tillary St., Brooklyn 1, N. Y.

First issue of "Daco Doings" is an 8-page bulletin that uses pictures to show tools and gages used in instrument and other precision parts manufacture. Other pictures show jig boring and jig grinding machines in use, views of the test and development laboratory, office personnel. The publication will be issued quarterly to keep you posted.

▼ BREVITY—identify by IEN - 2499 if you write the maker ▼

CONTROLS . . Effect of draft on boiler operation reported by test results in looseleaf data bulletin

Field Control Division
152 Thomas Blvd., Dept. 102, Mendota, Ill.

Laboratory Report 5002, available on request from the company, is a seven-sheet typewritten bulletin that describes the effect of draft on boilers fired by forced-draft gas burners with input of 400,000 btu. and more per hour. Graphs show efficiency curves. Similar data are given in five-sheet Report 5003 on atmospheric burners. Function of a draft control are stressed in each.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 2500 if you write the maker ▼

NEW LOCKER CATALOG

ANSWERS ALL YOUR CLOTHING STORAGE NEEDS!

- Presents a Complete Range of Locker Types and Sizes.
- Tells How to Provide More Storage in Less Floor Space.
- Gives Newest Ideas on Locker Room Layout, Ventilation, etc.
- Shows How to Make "Custom-Type" Installations with Economical Standard Lockers.
- Lists Ways to Save Time and Money when Ordering.

Send for Your Free Copy Today!

penco
Perma Built
STEEL LOCKERS
SHELVING • CABINETS
Pioneer in Sheet Metal Products Since 1869

PENN METAL Corporation of Penna.
80 OREGON AVE., PHILA. 48, PA.

▼ BREVITY—identify by IEN - 2501 if you write the maker ▼

"Buffalo" VOLUME FANS
FLEXIBLE-EFFICIENT-DURABLE

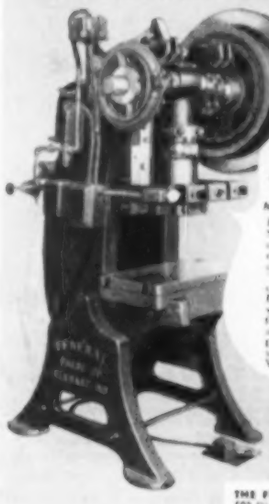
Their rugged cast iron housings are resistant to heat and moisture—and are quickly adjustable to 8 DISCHARGE POSITIONS! Here's a truly *flexible* fan for scores of blowing and exhausting jobs in YOUR plant. Smooth running, on dust-proof ball bearings. WRITE TODAY for Bulletin 3615—put this all-around fan to work for you!

- For many CLEANING JOBS
- For DRYING
- For forge or furnace DRAFT
- For MATERIAL HANDLING
- For EXHAUSTING FUMES, DUST, ETC. —up to 10" S. P.

BUFFALO FORGE COMPANY
496 BROADWAY BUFFALO, N. Y.
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Sales Representatives in all Principal Cities

▼ BREVITY—identify by IEN - 2502 if you write the maker ▼

FEDERAL Crankless PRESSES
27 YEARS OF QUALITY CONSTRUCTION



Smoother, Faster

More Accurate Operation

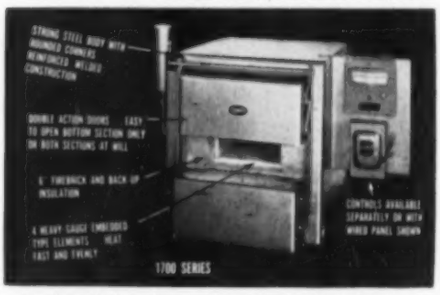
Federal Presses with new Smooth-Air clutch are controlled electro-pneumatically. Void of mechanical linkage. May be inched, single-stripped, or operated continuously. Built of finest materials, working parts are carefully machined, fitted and aligned for balanced power at any operating speed. 6 to 80 tons. Write for catalog.

THE FEDERAL PRESS CO.
503 Division St., Elkhart, Ind.

▼ BREVITY—identify by IEN - 2503 if you write the maker ▼

CUT HEAT-TREAT COSTS

. . . with this versatile Temco bench furnace for heat treating dies, parts, tools, etc.

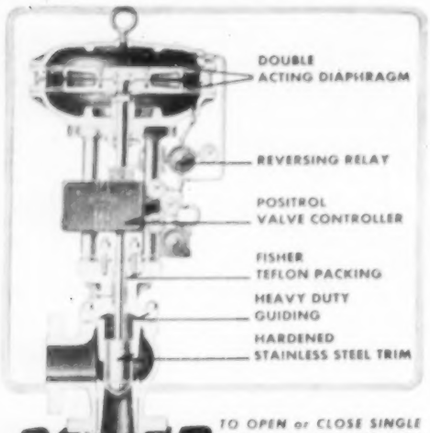


Speed production, lower unit costs with this husky electric furnace. Large enough to take a wide variety of work, yet compact and exceptionally convenient to use. Chamber sizes—9½" wide, 8½" high and 13½" or 18" deep. Heating range 350° to 1900° F., 220 V. operation. Price with controls, $297.50 to $507.50. Furnace only $235 to $285. Write for literature and nearest dealer's name.

TEMCO® ELECTRIC FURNACES

THERMO ELECTRIC MFG. CO., 482 HUFF ST., DUBUQUE, IOWA

BREVITY—Identify by IEN - 2504 if you write the maker



POWER TO OPEN or CLOSE SINGLE SEATED VALVES UNDER HIGH PRESSURE DROP CONDITIONS

FISHER AMT*

DIAPHRAGM MOTOR VALVES FOR HEAVY DUTY SERVICE

*AMT "Answer Me Twice". In action, pressure added to one diaphragm, subtracted from other.

FISHER GOVERNOR COMPANY MARSHALLTOWN, IOWA

BREVITY—Identify by IEN - 2505 if you write the maker

Machine "down-time" cut 40%

with HYPRESSURE Jenny STEAM CLEANER

Your machines are back in production almost twice as fast, if they are Hypressure JENNY steam cleaned before repairs! Actual time studies show that up to 40% of the costly time of skilled mechanics is lost lighting grease and dirt.

Hypressure JENNY not only saves precious time, but pays plus dividends in stepped-up production, fewer lost-time accidents, lower fire-insurance premiums, and increased personnel efficiency. Write for complete information about this modern aid to increased production. There's no obligation; so why not do it now?

There is a Hypressure Jenny Steam Cleaner for every Mill . . . Mine . . . Factory . . . Farm and Automotive need

Distributors in all parts of the world — For local representation see classified Telephone Directory

HYPRESSURE JENNY DIVISION HOMESTEAD VALVE MANUFACTURING CO. P. O. BOX 85 CONNELLSVILLE, PA.

BREVITY—Identify by IEN - 2506 if you write the maker

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling — Saves Die Costs Saves on Expensive Presses

The illustration at the left shows just a few pieces produced on our famous Multiform Bender-Cutter. This efficient machine is useful in all lines of trade.

No. 5 AIR MODEL

FIVE-IN-ONE-TOOL—ALSO LARGER MODELS

Hand Operated Models Available

IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPE, CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. 907 NORTH PITCHER ST. KALAMAZOO 60F, MICH.

NEWS NOTES—Continued

BREVITY—Identify by IEN - 2507 if you write the maker

CONVEYING . . How to lay out and specify rubber-fabric conveyor belts described in bulletin

New York Belting & Packing Co.
3 Market St., Passaic, N. J.

Carrying capacity of troughed belts, drive factors, level horsepower factors, adjusted center-to-center distances, number of maximum and minimum plies, angles of inclination, recommended minimum pulley diameters, bucket data are among the tables given in new 32-page Bulletin NY-1637-C. Text gives selection data, calculation examples, belt types.

BREVITY—Identify by IEN - 2508 if you write the maker

COOLING . . Detail selection instructions on finned-tube cooling coils in 72-page bulletin

Trane Co.
2017 Cameron Ave., La Crosse, Wis.

How to select the proper design of cooling coil for a desired air-conditioning or process application is described in 50 of the 72 pages in new Bulletin DS-305. Information includes instructions, formulae, data required, calculation examples, nomograph charts, tables, for both water cooling and direct-expansion cooling coils. Drawings show piping details.

BREVITY—Identify by IEN - 2509 if you write the maker

CUTTING . . By abrasive methods described as to principle, equipment, applications

American Chain & Cable Co.
927-31 Connecticut Ave., Bridgeport 2, Conn.

"Principles of Abrasive Cutting" titles new 36-page Booklet DH-301, written by H. G. Robinson, Chief Engineer of the company's Campbell Machine Division. The booklet describes wet and dry abrasive-cutting methods, materials that can be cut, use of coolant, equipment for the purpose, examples of use. Included are charts of cutting performance.

BREVITY—Identify by IEN - 2510 if you write the maker

DIE CASTING . . Enter your nominations for the Doehler award for die casting achievement

American Die Casting Institute Inc.
366 Madison Ave., New York 17, N. Y.

April 30 is the closing date for nominations and supporting papers leading to the annual Doehler Award by the Institute. The award is given for outstanding contributions to the advancement of the die-casting industry and process. It consists of $500 or more and a plaque.

BREVITY—Identify by IEN - 2511 if you write the maker

DRIVES . . How to use flexible shafts for drive and control described in 256-page handbook

S. S. White Dental Mfg. Co.
10 E. 40th St., 23rd Floor, New York 16, N. Y.

Third Edition of the company's Flexible Shaft Handbook is available on letterhead request from engineers, designers, purchasing agents. It illustrates and describes the uses of flexible shafts for power transmission and remote control, presents data on casing and shafts, tells how to select a flexible shaft for given conditions, shows end fittings and adapters. There are data tables and engineering standards at the back.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2512 if you write the maker

Investigate LAPPING! On Metals-Ceramics Quartz and Plastics

Here's What You Can Do With a CRANE LAPMASTER..

With a Lapmaster you can lap different parts in one cycle, lap wide range of parts of different materials in short or moderate production, lap identical parts at tremendous production rates and maintain tolerances to one light band (.0000116"). GET all the facts. Lapping may be the solution to your problem.

Write for free bulletin I.E.N. 52

JOHN CRANE CRANE PACKING COMPANY LAPMASTER DIVISION 1813 CUTLER AVENUE • CHICAGO 13, ILLINOIS

BREVITY—Identify by IEN - 2513 if you write the maker

REMOVE STUBBORN GREASE AND DIRT FROM METAL PARTS — EASIER, FASTER, MORE ECONOMICALLY WITH . . .

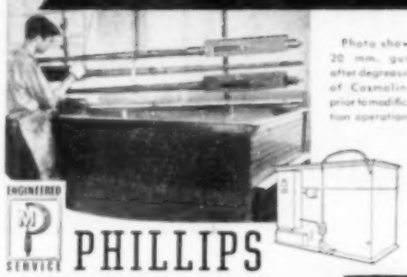


Photo shows 20 mm. guns after degreasing of Cosmoline, prior to modification operations.

ENGINEERED SERVICE PHILLIPS VAPOR DEGREASERS

THE most heavily greased up parts will come clean easier and faster in a Phillips degreaser. High vapor temperature (250.2° F.) not only causes more dissolved grease to run off the metal, but makes for faster degreasing too. Wherever you have parts to clean, large or small, before plating, painting, rustproofing, service and repairwork, etc., you can do it better, faster and more economically with a Phillips degreaser. There's a standard model to meet your needs. Check with Phillips today.

SEND FOR YOUR FREE COPY OF NEW ILLUSTRATED DEGREASER BULLETIN!

Phillips MANUFACTURING COMPANY 3461 Touhy Ave. • Chicago 45, Illinois

Vapor Degreasers • Solvents • Parts Washers

BREVITY—Identify by IEN - 2514 if you write the maker

now ONE GOVERNOR ONE MODEL . . . for 9 out of 10 industrial and farm engines

PIERCE LONG RANGE UNIVERSAL GOVERNOR

● Instant variable speed selection and accurate engine control at any speed setting within 1200 to 2600 RPM. Higher and lower ranges obtainable by simple change of pulley. Also "constant speed" operation.

● Accurate, dependable speed control for engines operating corn shellers, drag lines, hoists, arc welders, trucks and tractors with power take-offs, etc.

List Price $44.00 (Includes Standard 5" Pulley)

Write for Complete Information

DEALERSHIPS AVAILABLE

THE PIERCE GOVERNOR COMPANY, INC. 1600 Ohio Ave., Box 1000, Anderson, Indiana, U.S.A.

WORLD'S MOST EXPERIENCED GOVERNOR MANUFACTURER

BREVITY—Identify by IEN - 2515 if you write the maker

RAMSCO

FREE TURNING BALL BEARING SWIVEL FITTINGS FOR LIQUIDS, GASES, STEAM, AND OTHER CHEMICALS. HOT OR COLD SERVICE. CONTINUOUS OR OCCASIONAL ROTATION SERVICE.

360° FREE ROTATION—1, 2 AND 3 PLANES

Your particular piping problems solved. You name it—we have it. Over 500 sizes, types, styles. Sizes: ⅜" to 14" low pressure; ¼" to 6" high pressure. Corrosive service or steam fittings 1000 psi. and temp. to 750°F., asbestos or Teflon packed. Low pressure fitting to 1000 psi. and temp. to 225° F. High pressure fittings to 15,000 psi. and temp. to 225° F. Gear driven types available.

Send for complete catalog and prices. State kind of service, pressure, temperature, pipe size and indicate style at left, threaded, flanged or weld ends.

RASMUSSEN MFG. CO. 12305 INDUSTRIAL AVENUE HOLLYDALE, CALIFORNIA RAMSCO

▼ BREVITY—identify by IEN - 2516 if you write the maker ▼

MYSTIK Spra-Mask

Gives you Hand-Lettered Results with Speed and Low Cost of Stenciling

For fast, easy stenciling, get MYSTIK Self-Stik Spra-Mask. Die-cut to any design you wish, it sticks firmly to the surface to be painted, permitting one-man operation. There's no bleeding through the mask or under the edges to worry about. Just put it in place, cut the ties and spray. That's all you need to do for sharp, clear stencils. Available die-cut, in sheets, or in rolls of blank stock up to 36" x 60 yards inclusive. Write for information and free samples.
Mystik Adhesive Products,
2644 N. Kildare,
Chicago 39.

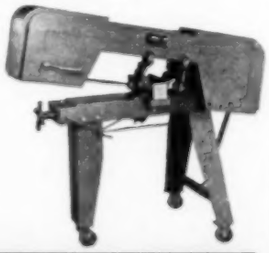
▼ BREVITY—identify by IEN - 2517 if you write the maker ▼

"AND THE PRICE IS LOWER THAN YOU THINK"

HAVE YOU TALKED WITH YOUR JOHNSON DEALER LATELY?

Model J, 10" x 18" capacity. Available as a wet or dry cutting machine.

If you are in need of a band saw, find out now about the low cost of a Johnson Metal Cut-Off Band Saw. You'll find the investment surprisingly small, especially when you consider the many profitable uses it has in both large and small plants. The adaptability and flexibility of a Johnson Saw is almost unlimited: Rods, Tubes, Angles, Heavy Rounds or Flats, all can be cut quickly and economically. Only a minute or two for set-up; cutting action fast; smooth quiet Cuts, with unbelievable accuracy.



Junior Model B (with or without casters) 5" x 10" capacity.

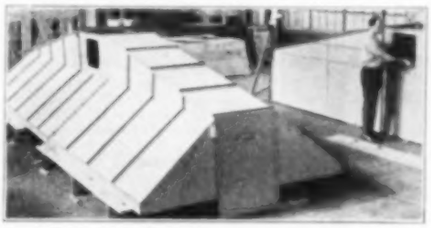
THERE IS A DEALER NEAR YOU

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

▼ BREVITY—identify by IEN - 2519 if you write the maker ▼

PROCESSING . . Hoods, stacks, tanks, liners for chemical plants

Source: UNITED STATES RUBBER CO.
1230 Sixth Ave., New York 20, N. Y.



Built to your specification

Uscolite trade names new line of corrosion-resistant plastic equipment in which the plastic is used for all assembly parts. Reinforcing ribs, joints and corners are extruded. Sheets are employed to form the sides, tops and bottoms. Rivets are injection molded. Bolts are machined from extruded tube stock. Joints are solvent welded, employing the plastic in solution, to form an air-tight assembly.

Characteristics include low price as compared to stainless steel, exceptional durability, light weight, excellent resistance to hydrochloric, hydrofluoric, phosphoric and sulfuric acids. The material is resistant also to attack by chemicals such as sodium hydroxide, potassium hydroxide, ammonium hydroxide, calcium hydroxide, ammonium chloride, copper sulphate, ferric chloride, chlorine gas or solution, bleach solution, hydrogen peroxide to 3 per cent concentration, oleic acid, castor oil. It will not stand up in contact with aromatic hydrocarbons, ketones, esters or chlorinated solvents.

▼ BREVITY—identify by IEN - 2520 if you write the maker ▼

PRESS TOOLS . . Guide pin has removable cap to assist servicing

Source: SUPERIOR STEEL PRODUCTS CORP.
2752-56 S. 19th St., Milwaukee 7, Wis.

Hardened and ground

Removable cap forms the outer portion of a new guide pin now available in die sets manufactured by the company. The cap rides a tapered seat on the pin. It is held in place by a centrally located screw. Its upper end is recessed and drilled to act as a reservoir and feed for oil when the die set is in operation.

Chief function of the cap is to prevent binding when the die set is being taken apart and put together again for servicing. For this purpose the holding screw can be removed and the cap lifted from its taper seat. Then there is no contact with the punch-holder bushings when this holder is near the top of its normal movement.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 2521 if you write the maker ▼

THE TWIN TUBE POCKETSCOPE BY WATERMAN

MODEL S-15-A

Wt. 36½ lbs.
12" x 6" x 7"

A new concept in multiple trace oscilloscopy made possible by Waterman developed RAYONIC rectangular cathode ray tube, providing for the first time, optional screen characteristics in each channel. S-15-A is a portable twin tube, high sensitivity oscilloscope, with two independent vertical as well as horizontal channels. A "must" for investigation of electronic circuits in industry, school, or laboratory.

Vertical channels: 10mv rms/inch, with response within —2DB from DC to 200kc, with pulse rise of 1.8ms. Horizontal channels: 1v rms/inch within —2DB from DC to 150kc, with pulse rise of 3ms. Non-frequency discriminating attenuators and gain controls, with internal calibration of traces. Repetitive or trigger time base, with linearization, from 15cps to 50kc, with ± sync. or trigger. Mu metal shield. Filter graph screen. And a host of other features.

WATERMAN PRODUCTS CO., INC. PHILADELPHIA 35, PA.
CABLE ADDRESS: POKETSCOPE

WATERMAN PRODUCTS INCLUDE:

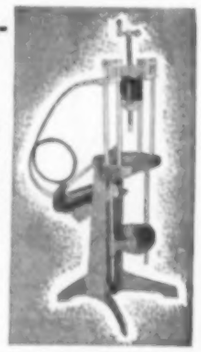
S-4-A SAR	PULSESCOPE
S-5-A LAB	PULSESCOPE
S-10-B GENERAL	POCKETSCOPE
S-11-A INDUSTRIAL	POCKETSCOPE
S-14-A HIGH GAIN	POCKETSCOPE
S-14-B WIDE BAND	POCKETSCOPE

Also RAKSCOPES, LINEAR AMPLIFIERS, RAYONIC TUBES and other equipment

WATERMAN PRODUCTS

▼ BREVITY—identify by IEN - 2522 if you write the maker ▼

NEW OTC POWER-TWIN PORTABLE PEDESTAL PRESS



An amazingly efficient portable pedestal press, which combines with the Power-Twin Hydraulic Ram to perform tough jobs easily and quickly.

STRONG. Handles 95% of all pulling or installing jobs. Especially designed for use with OTC 17½ ton Hydraulic Puller.

AMAZINGLY PRACTICAL for all production, assembly line and maintenance operations.

PORTABLE OR PERMANENT. Easily moved from job to job or located near permanent equipment.

COMPACT. Base is only 20 x 21 inches.

VERSATILE. Provides almost unlimited vertical adjustment for pulling or installing wheels, pullers, bushings, collars, couplings, gears, shafts and bearings.

POWER-TWIN HYDRAULIC BENCH PRESS

Bench frame available for use with OTC Power-Twin Center-Hole Hydraulic Ram. Provides compact, inexpensive hydraulic press for mounting on bench for use in shops—or service truck for use on the job.

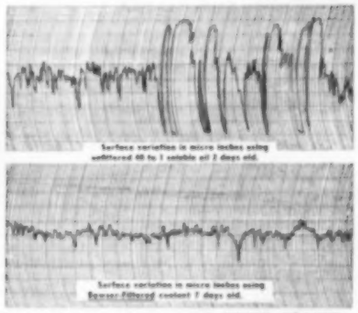
See your jobber for complete information or write us.

OWATONNA TOOL COMPANY
371 CEDAR STREET • OWATONNA, MINNESOTA

▼ BREVITY—identify by IEN - 2523 if you write the maker ▼

NOW - MORE THAN EVER

Coolant must be kept clean!



These surface variations are from work FINISH GROUND to .0001 tolerance, to be lapped later to 1/200,000.

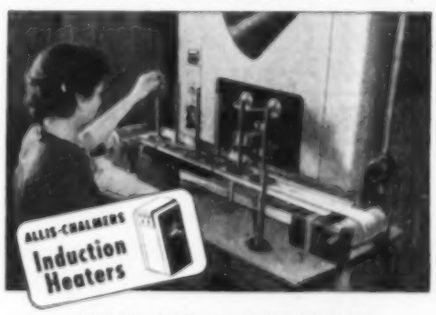
Rejections averaged 25% with unfiltered coolant—were reduced to less than ½% when Bowser-filtered.

Our nearest sales engineer will welcome an opportunity to discuss your coolant filtration problems. May we have him call?

BOWSER, INC., 1338 Creighton Ave., Fort Wayne 2, Ind.

BOWSER — LIQUID CONTROL SPECIALISTS SINCE 1885

▼ BREVITY—identify by IEN - 2524 if you write the maker ▼



JACK-OF-ALL-TRADES

on hardening, annealing, brazing jobs

JOB SHOWN is one of many jobs in this plant handled by the one machine. Operator is brazing housings for shock absorbers. They pass through coil on asbestos conveyor belt at speed of 2 feet per minute. Production 6 pieces a minute. A simple change of work coils is all that's needed and this same Allis-Chalmers Induction Heater is then used for fast, low cost hardening, annealing, brazing, or heating.

It's easy to find out what Allis-Chalmers Induction Heaters can do for costs in your plant. Simply call your nearby Allis-Chalmers district office and outline your heating problems. Or write, Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3611

ALLIS-CHALMERS

BREVITY—Identify by IEN - 2525 if you write the maker

LANCO

HAS THE ANSWER TO YOUR

"ENDLESS CHAIN"

MATERIAL HANDLING TRUCK PROBLEM

Overhead or underfloor tow, platform dimensions, superstructures, wheel size and material . . . all of the factors involved in developing efficient trucks for Endless Chain conveying systems can be answered by Lanco trucks. Lanco trucks, custom built from standard components, assure you of complete efficiency at an economical cost.

LANSING CO. LANCO MATERIAL HANDLING EQUIPMENT

LANSING, MICHIGAN

BREVITY—Identify by IEN - 2526 if you write the maker

DON'T WAIT 'TIL TOO LATE

Clean plants get those important defense jobs. Get your plant cleaned up now. A week or month from now may be too late.

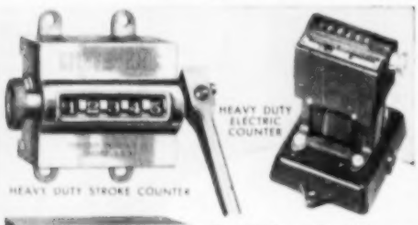
Send for important Doyle Vac-It information today. There's no obligation.

Model D-1

Doyle VACUUM CLEANER CO.

2235 Stevens St., S. W. Grand Rapids 7, Mich.

BREVITY—Identify by IEN - 2527 if you write the maker



AUTOMATIC BATCH COUNTER

Counting Problems SOLVED!

PIC Counters count anything. *FAST — ACCURATE — DEPENDABLE.* Stroke, Revolution, Electric, Automatic Batch Counters. Rugged, Heavy Duty Counters. Small, low cost Counters. The right Counter for every job.

Tell us what you want to count or send for catalog. G2

MODERN COUNTING DEVICES

Strokes and Revolution Counters
Hand Counters
Electric Counters
Automatic Batch Counters
Adjusting Counters

PRODUCTION INSTRUMENT COMPANY
700-10 W. Jackson Blvd., Chicago 6, Ill.

Send literature on Counters:
☐ Heavy Duty Stroke ☐ Small Mechanical
☐ Heavy Duty Revolution ☐ Small Electric
☐ Heavy Duty Electric ☐ Batch Counters
☐ Complete 8-page PIC Counter Catalog

Name
Street
City Zone State

NEWS NOTES—Continued

BREVITY—Identify by IEN - 2528 if you write the maker

FASTENINGS . . Note the spread of tolerance accommodated by Rollpin split cylindrical pin shown

Elastic Stop Nut Corp.
2328-32 Vauxhall Road, Union, N. J.

Elastic recovery characteristic of the company's Rollpin fastener is emphasized in the demonstration assembly illustrated. Three metal rings with openings of .256, .253 and .250 in. are secured tightly together by a standard ¼ in. fastener because of the unit's ability to conform to hole diameter within a tolerance range. The fastener is a rolled metal cylinder with a longitudinal slot. It provides radial spring action, resists vibration, absorbs shock loading, does not require a reamed opening. The company will be happy to furnish application data upon request.

BREVITY—Identify by IEN - 2529 if you write the maker

FLOORS . . Recommended construction for corrosion resistant floors shown in bulletin

United States Stoneware Co.
Brimfield Road, Akron 9, Ohio

Drawings and instructions in new 16-page Bulletin AE17 bear out the title, "How to Build Corrosion-Resistant Floors." Subfloor, membrane, acid brick, jointing compound are described along with design and application notes, a set of questions and answers, and a variety of application pictures.

BREVITY—Identify by IEN - 2530 if you write the maker

LUBRICATING . . Useful information on equipment lubrication in series of data folders

Tide Water Associated Oil Co.
17 Battery Place, Room 628, New York 4, N. Y.

"Lubricania" titles 20-page introductory bulletin which we have received together with a set of data bulletins on specific lubricating uses. Although these carry a 1941 copyright, they are kept up to date as new information comes along. Typical subjects include lubrication of anti-friction bearings, compressors, diesel engines, electric motors, gears, turbines, trucks. You can request addition of your name to receive data on applications that interest you.

BREVITY—Identify by IEN - 2531 if you write the maker

PACKAGING . . Replacing the tin can by aluminum containers described in new booklet

Reynolds Metals Co.
2502 S. 3rd St., Louisville 1, Ky.

"How Aluminum Can Save Tin" is a 26-page booklet that shows by drawings and text a number of aluminum packaging containers to use as alternates for tin cans for food and other products. Aluminum alone is used in some, aluminum combined with paper, wax, plastic or fiber materials in others. All can be made on standard automatic high-speed machines. Some are cans, some are carton type. A table compares costs and materials used in packaging 25 specific products.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2532 if you write the maker

Aetna

THRUST BEARINGS

for every load, speed and duty

Standard types and sizes for every conventional application involving thrust loads • Specials to 38" O.D., 250 ton capacity • Facilities for microscopy, physical testing and metallurgical laboratory services • 36 years of specialized, high precision manufacturing and engineering experience in the field of ball thrust bearings. Write for catalog.

AETNA BALL AND ROLLER BEARING CO.
4600 Schubert Ave.
Chicago 39

EQUIPPED FOR SIZES FROM 3/8" I.D. TO 38" O.D.

BREVITY—Identify by IEN - 2533 if you write the maker

NAME THE ALUMINUM SHAPE YOU NEED

Here's a good, dependable source for aluminum extrusions in quantity. Send us your inquiry with adequate information and we will answer promptly. Whatever aluminum shape you need for your product or contract; Youngstown Manufacturing, Inc., can supply. Write, wire or phone.

BUY FROM THE *Big Name* IN THE *Aluminum Extrusion* BUSINESS

YOUNGSTOWN MANUFACTURING, INC.
66-76 South Prospect Street
Youngstown 6, Ohio

SUPERIOR ALUMINUM EXTRUSIONS

BREVITY—Identify by IEN - 2534 if you write the maker

Automatically LIDS MIXED SIZE BOXES

up to 600 per hour . . .

One operator can lid up to 600 boxes of mixed sizes per hour on the *fmc* Random Size Box Lidder. As the boxes are conveyed into the machine it automatically adjusts the nailing chucks to the proper size, drives the required number of nails, and discharges the lidded box on to an outgoing conveyor, taking the place of several nailing machines which would otherwise be required to handle the same volume and variety of production.

SEND FOR ILLUSTRATED BULLETIN

FOOD MACHINERY & CHEMICAL CORPORATION
Packing Equipment Division, Dept. D
Riverside, California NM-20 C

BREVITY—Identify by IEN - 2535 if you write the maker

NOW! *Chatterless countersinking* with the new FORD "QUAD"

Produce controlled finishes with none of secondary burrs resulting from ordinary countersinks. New type flutes of this job-proven high speed steel countersink are equally efficient on chamfering or burring, valve-seat-finishing, center reaming. You'll be amazed by smooth, even finish even on square holes.

Pioneers in Job-engineered Rotary Tools

M. A. FORD MFG. CO., INC.
741 West River St., Davenport, Iowa

Please send details and prices on the Ford "Quad" countersink.

NAME
COMPANY
ADDRESS

BREVITY—identify by IEN - 2536 if you write the maker

MACHINE LOADING, SCHEDULING DISPATCHING AND JOB ASSIGNMENT

Bulletin outlining procedure widely used for these cost-cutting results now available:

Visual Scheduling . . . a glance at Board shows work ahead for each machine or man.

Order Sequence . . . quickly indicated by arrangement of tickets representing orders.

Schedule Changes . . . easily specified by rearranging tickets in revised sequence.

No Delay Between Planning and Dispatching . . . no lists or records to write.

Operation According to plan Assured.

Readily Adapted . . . to production, assembly, maintenance, engineering and work of every variety, using work orders, time tickets, move tickets, tabulating cards, etc. and McCaskey Machine Control Boards.

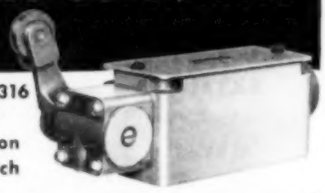
Write today for your copy of illustrated Bulletin A-630 IEN containing all the facts

The McCaskey Register Company, Alliance, Ohio

McCASKEY INDUSTRIAL CONTROLS
PRODUCTION • TOOLS • INVENTORY • COSTS • MAINTENANCE

BREVITY—identify by IEN - 2537 if you write the maker

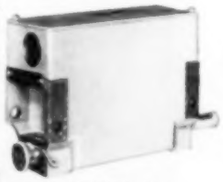
2 GOOD LIMIT SWITCHES



Bulletin 10316 Type F Snap Action Limit Switch

For limiting linear travel

The Cutler-Hammer 10316 Type F is a snap action limit switch for use in limiting linear travel of a moving member on many different machines, machine tools, cranes and hoists. It can be used to reverse motors and to initiate automatic cycles. Operating head mounts in any of 4 quadrants so it is easy to position switch. Roller lever, push roller or push rod operating head optional. Roller lever can be set in 90 different positions, 4 degrees apart. Roller lever available for trip in both directions, or trip in one direction and by-pass in the other direction. Two circuits, one normally open, one normally closed. Adjustable contacts for different arrangements of overlap, or no overlap. Twin-break, silver-to-silver, quick make and break contacts. Durable construction with oversized bearings and hardened surfaces. Standard, dustproof, dusttight, watertight or oiltight enclosures. Maximum accessibility for ease of wiring and adjustment.



Bulletin 10316 Type J Rotating Shaft Limit Switch

For limiting shaft rotation (in two directions)

Simple device, simply adjusted for limiting travel on number of shaft rotations in two directions on reciprocating equipment, machine tools, motor driven doors, baling presses, hoists, etc. To adjust settings, simply turn a knob on outside of case. You can vary length of stroke between 1/2 turn and 100 turns in fractions of 1/20th turn. Resets on 1/8th turn in reverse direction. Mounts on right or left side or bottom.

The Bulletin 10316 Type J Switch is available in 2 circuits, and 4 circuits for added control circuits. Standard 2 circuit switch has 2 normally closed contacts changed easily to normally open contacts. 4 circuit switch has normally open or normally closed contacts easily reversed or changed to 2 normally open and 2 normally closed contacts. 2 circuit switch available in standard enclosure and both switches are available in NEMA 4 watertight or NEMA 5 dusttight construction. CUTLER-HAMMER, Inc., 1378 St. Paul Ave., Milwaukee 1, Wis. *Associate:* Canadian Cutler-Hammer, Ltd., Toronto, Ont.

CUTLER-HAMMER MOTOR CONTROL C-H

BREVITY—identify by IEN - 2539 if you write the maker

PUMP . . Positive rotary design, 80 gpm. at 275 lb. and 3,500 rpm.

Source: DE LAVAL STEAM TURBINE CO. 851-55 Nottingham Way, Trenton 2, N. J.

Ask for Bulletin L313B

Type A313B is new design in the company's IMO line for oil-handling application as in hydraulic lines, oil burners, lubricating, speed governors. It follows the standard design of this type of pump with its single motor-driven rotor and pair of sealing idlers that mesh together to forward the liquid axially from the intake to the outlet. A mechanical seal prevents leakage. A ball bearing carries the load at the driving end. Overall length, in assembly with a standard motor, ranges from about 27½ to 46 in. in the three available sizes. Base width is 12 to 18 inches.

BREVITY—identify by IEN - 2540 if you write the maker

ELECTRIC CIRCUIT . . Printed resistors and films of carbon composition

Source: GLASS PRODUCTS CO. 6909-13 S. Chicago Ave., Chicago 37, Ill.

Company will supply details

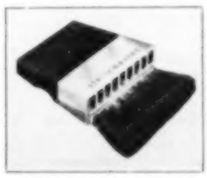
The company announces addition of a line of printed resistors and resistance films for use with its electric circuits, previously described IEN-4254-49. The new units range in value from 25 ohms to 1 megohm per square inch. They are now being manufactured by semi-automatic methods. Dissipation rating is from 1 to 5 watts per sq. in. of film deposit, depending upon the heat-conducting and operating-temperature characteristics of the base material on which the printing is done.

Silver-ink terminals can be provided. Printed insulation is available incorporating water-repellent materials. Aging properties are good. JAN specifications are met.

BREVITY—identify by IEN - 2541 if you write the maker

STATIC ELIMINATOR . . Hand brush is assembled with a strip of Polonium

Source: NUCLEAR PRODUCTS CO. 2148-52 Newport Blvd., Costa Mesa, Calif.



Two sizes measuring 1 and 3 in. in width now are available in the Statlemaster brush, previously described IEN-11543-50. As in the initial design the unit is brushed over a surface to be neutralized while it is held so its Polonium strip faces down toward the surface. The bristles remove existing dust and lint while the Polonium frees the surface of static. List is about $5 and $8.13.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2542 if you write the maker

Reels Just Go Rollin' Along To Job Or Storage

Why push, shove, pull or rely on jacks when the most efficient way . . . the quickest way . . . the most economical way is to use

ROLL-A-REEL

It's husky, long-lived, easily carried to reels, job or storage. The low slanted front and positive front lock insure quick loading or unloading.

Remove wire, cable or rope from top or bottom, front or back of reel.

Style A
2,000 lbs. cap. $37.50

Style B
4,000 lbs. cap. $75.00

• PROMPT DELIVERY. ORDER NOW!

ROLL-A-REEL

327 West Fourth St. Cincinnati 2, Ohio

BREVITY—identify by IEN - 2543 if you write the maker

A RELIEF VALVE *can not* keep a tank from EXPLODING! *but YOU CAN!*

TYPE FD-TL CASH-ACME Relief Valve. A. G. A., and Underwriters' approved.

CORRECT INSTALLATION *is all-important*

That is why long hours of research are conducted in the CASH-ACME Engineering Laboratory to determine the BEST installation for relief valves. Each CASH-ACME Relief Valve you buy, comes with complete INSTALLATION INSTRUCTIONS based on the findings of this laboratory. Follow them closely to make sure that YOUR installations are the best.

Sold ONLY through Plumbing and Heating Wholesalers. See them . . . ask for—

Write . . . for your free copy of our new 1951 Catalog for complete details on CASH-ACME Products.

CASH-ACME *Automatic Valves*
A.W. CASH VALVE MANUFACTURING CORPORATION
6612 East Wabash Avenue, Decatur, Illinois, U. S. A.

BREVITY—identify by IEN - 2544 if you write the maker

KLIXON

Thermo-Snap CONTROLS

Can Provide a Solution to Your Temperature Control Problems

Klixon Thermo-Snap Controls . . . hermetically sealed and open types . . . are widely used in both military and commercial applications in such products as tanks, airplanes, sterilizers, radio and electronic equipment, electrical appliances, unit and space heaters, dairy heaters, etc.

Actuated by the simple snap-acting Spencer disc, they open the circuit with a quick, clean break . . . close the circuit to a solid make. Their accurate operation is best able to withstand shock, vibration, altitude or motion.

Klixon Thermo-Snap Controls are available in many types and ratings in a wide variety of operating temperature ranges. Our engineers will gladly help you with your temperature control problems. Write for their help and information, today.

KLIXON

SPENCER THERMOSTAT
Division of Metals & Controls Corp.
203 Forest St., Attleboro, Mass.

BREVITY—identify by IEN - 2545 if you write the maker

WE OFTEN DO THIS—

to deliver Synthane Plastics on time

On-time delivery of Synthane laminated plastics parts and materials is one of our prime principles of service. Sometimes we almost have to stand on our heads to make it, but we do usually deliver the goods for our customers when wanted. If you are not now a customer and need materials or fabricated parts with an unusual combination of valuable properties, find out about Synthane. Mail the coupon today for complete information.

SYNTHANE

Manufacturers of laminated plastics
SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
South River Road, Oaks, Pa.

Gentlemen:
I'd like to know more about Synthane laminated plastics. Please send your catalog to:

Name _____
Address _____
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BREVITY—identify by IEN - 2546 if you write the maker

GRIGOLEIT OFFERS Beauty and Economy IN MOLDED PLASTICS

For economy, service, and sales appeal, now is the time to dress up your product with attractive new plastics by GRIGOLEIT. A complete line of stock handles, knobs, pendants and threaded specialties are available for your selection. Order now while we can still secure immediate delivery.

Whatever your problem might be, let GRIGOLEIT handle it!

THE GRIGOLEIT COMPANY
"Over Twenty Years in Plastics"
742 E. NORTH ST. DECATUR, ILLINOIS

BREVITY—identify by IEN - 2547 if you write the maker

"We've saved 30% in handling costs with the Stanley Steel Strapping System"

. . . Mr. Leonard L. Place, Shipping Mgr. Continental Screw Co., New Bedford, Mass. tells the STANLEY MAN

And this is but one of hundreds of success stories made possible with the Stanley Steel Strapping System. Just another example of how the Stanley Steel Strapping System and modern shipping methods can save man-hours—materials—money—shipping almost any product.

The complete System includes tools, reels, seals, strapping and accessories—everything needed for your application.

STEEL STRAPPING AND CAR BANDING SYSTEMS

STANLEY

Reg. U.S. Pat. Off.

Hardware • Tools • Electric Tools • Steel Strapping • Steel

The Stanley Works, Steel Strapping Division, 204 Lake St., New Britain, Conn.
Branch Offices or Representatives in 32 principal cities

Please ask your Representative to call and explain the advantages of the Stanley Steel Strapping System to me.

Name
Firm Name
Street
City and State

NEWS NOTES—Concluded

BREVITY—identify by IEN - 2549 if you write the maker

PULVERIZING . . Selection and capacity data in bulletin on six types of grinding mills for rock, ore

Allis-Chalmers Mfg. Co.
909 S. 70th St., Milwaukee 14, Wis.

New compilation of useful information on grinding mills has been made by the company in the form of 44-page Bulletin 07-B-6718A. Points to consider in machine selection, power requirements, grindability indices of materials, capacity tables on six machine types, drive arrangements, are typical.

BREVITY—identify by IEN - 2550 if you write the maker

STEELS . . Data on selection and use of tool steels in new 208-page bound handbook

Allegheny Ludlum Steel Corp.
2034-38 Oliver Bldg., Pittsburgh 22, Pa.

"Tool Steel Handbook" represents new compilation of data on the company's high-speed, hot-work, shock-resisting, cold-work, carbon and low-alloy tool steels. It is available on letterhead request by qualified individuals. Initial chapter covers types, properties, applications. Others describe how to select and use the proper type of tool steel.

BREVITY—identify by IEN - 2551 if you write the maker

WELDING . . By the inert-gas-shielded arc method described for magnesium, stainless, and pressure vessels

Air Reduction Sales Co.
16456 Lincoln Bldg., New York 17, N. Y.

Three bulletins in the form of technical article reprints are offered by the company on request. All deal with operation and performance of the company's "Aircomatic" inert-gas-shielded metallic-arc welding equipment. Bulletin ADR-75, 8 pages, concerns application on magnesium, shows photomicrographs and test specimens. Bulletin ADR-77, 20 pages, describes welding of austenitic stainless steels along with properties and corrosion data. Bulletin ADR-76, 8 pages, shows procedures for welding pressure vessels.

BREVITY—identify by IEN - 2552 if you write the maker

TUBES . . Why high-temperature tubes fail described in booklet by company's metallurgist

Babcock & Wilcox Co.
4027-31 Fourth Ave., Beaver Falls, Pa.

Bulletin TR-516 is a 40-page presentation of a series of five lectures by John J. B. Rutherford, reprinted from the ASM book, "High Temperature Properties of Metal." The booklet describes a variety of high-temperature high-pressure tube failures in power, oil and chemical plants. It gives reasons for the failures and notes on what can be done to avoid them.

BREVITY—identify by IEN - 2553 if you write the maker

WELDING . . Selection data and properties of bronze welding electrodes listed by wall chart

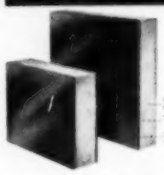
Ampco Metal Inc.
1743-47 S. 38th St., Milwaukee 46, Wis.

Selection table occupies the center portion of new 21½ by 29-in. "Bronze Welding Electrodes" chart. It presents information on general description, typical applications, mechanical properties, current and polarity, NEMA color code, available sizes. Below this is a selection and preheat chart.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2554 if you write the maker

CHEMELEC MULTI-BOND



X. *Pure Dielectric Material*
Y. *Multi-Bond Area*
Z. *Conducting Metal Surface*

Metal Faced TEFLON*

Here is the answer to the bonding and hermetic sealing of dielectric materials to metal components.

Chemelec Multi-Bond is metal-faced pure or filled TEFLON, produced by an exclusive (patents pending) method of uniting fluorocarbon resins and metals with an interlocking bond unaffected by severe mechanical shock, vibration and unequal rates of thermal expansion.

The bond is micro-crystalline in structure and gradually changes from dielectric to metal, the conducting metal surface being applied by electro-deposition or other conventional means.

Facing metals include practically all the ferrous and non-ferrous metals, the ferro magnetic group and the precious metals.

Sheets are available, metal faced on one or both sides, in thickness from .034 to 1.75 in. and in sizes up to 36 in. square. Write for Bulletin MI-424.

*du Pont's trademark for its tetrafluoroethylene resin.

UNITED STATES GASKET COMPANY

FLUOROCARBON PRODUCTS DIVISION
658 N. 10TH STREET, CAMDEN, N. J.
FOREMOST FABRICATORS OF "TEFLON" AND OTHER FLUOROCARBON PLASTICS

BREVITY—identify by IEN - 2555 if you write the maker

COLOR FILL—
STAMPED, DIE CAST, EMBOSSED PARTS
The NEW—FAST WAY
The ACROPRINTER REG. U. S. PAT. OFF.

PICKS UP COLOR ENAMELS OR COLOR INKS AND WITH A SPECIAL ACROPRENE DIE, APPLIES THE FILLING INTO DEPRESSED SURFACES.

MADE BY THE MAKERS OF MARKING AND NUMBERING MACHINES, NAME PLATE STAMPING MACHINES, ETC.

ACROMARK
ELIZABETH, N. J.
7 MORRELL STREET
"THE ORIGINAL MARKING SPECIALISTS"

BREVITY—identify by IEN - 2556 if you write the maker

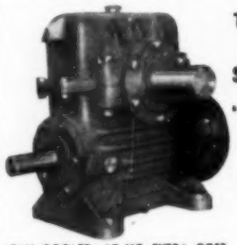
EVANS' SPRINGS

COMPRESSION • TORSION
EXTENSION & SPECIAL TYPE SPRINGS
METAL STAMPINGS & WIRE FORMS

SEND FOR TECHNICAL DATA FOR QUOTATIONS

JOHN EVANS' SONS, INC.
506 NORTH 13th STREET
PHILADELPHIA 23, PA.

BREVITY—identify by IEN - 2557 if you write the maker



FAN COOLED—AT NO EXTRA COST

The NEWEST IDEA IN SPEED REDUCERS . . . available immediately at sensible prices!

For maximum power output within minimum case dimensions—investigate Crofts "Radiation" Worm Reduction Gears . . . Ratios from 5 to 1 through 100 to 1—fractional up to 400 hp.

Three smallest units feature universal mounting for worm on bottom, top or vertical installation . . . Type R, sizes 3½" through 14", is fan cooled at no extra cost! Worm is of Crofts' famous "Wormsteel," integral with its shaft—mating wheel is "Croftspun" phosphor bronze. Precision ball bearings take all customary radial and thrust loads—heavy and overhung loads are handled by additional roller bearing. Housing is compact—yet engineered for maximum heat radiation. It is sealed oil and dust-tight and allows for easy interior and oil level inspection.

Consider Crofts for cool running and long life.
Write for catalog and price data.

NATIONAL TRANSMISSION DISTRIBUTORS, Inc.
684 BROADWAY NEW YORK 12, N. Y.
CAnal 6-7764

BREVITY—identify by IEN - 2558 if you write the maker

Wherever Williams-Hager flanged Silent Check Valves are installed, plant maintenance men will tell you their costly water hammer troubles are over. These dependable, durable and compact valves can be placed in your water system in any position, including angular, and will provide maximum protection at all times. They are available for every service in standard pipe sizes from 1" to 20". Why not rid your plant of water hammer *now* . . . get Williams-Hager Check Valves.

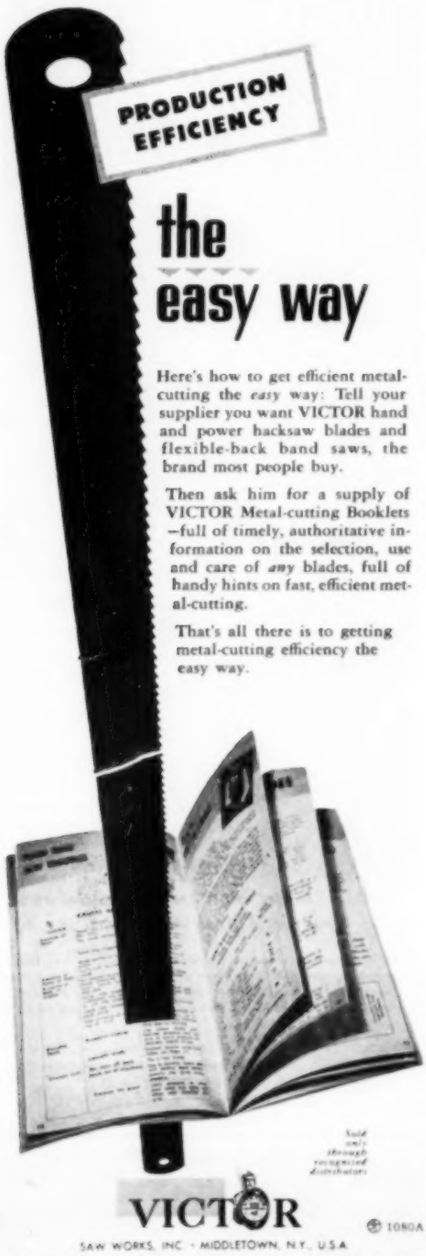
WILLIAMS-HAGER FLANGED *Silent* CHECK VALVES

Write for Bulletin WH 851

Write today for your copy of this informative bulletin on Water Hammer, Its Cause, Effect and Control in Piping Systems.

THE WILLIAMS GAUGE CO.
2980 PENNSYLVANIA AVE., PITTSBURGH 33, PA.

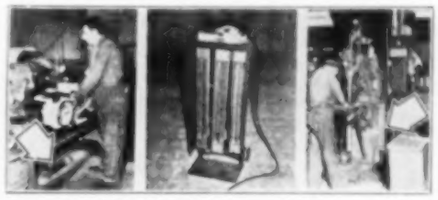
BREVITY—identify by IEN - 2559 if you write the maker



BREVITY—identify by IEN - 2561 if you write the maker

HEATING . . Radiant electric unit provides "spot" heat in cold locations

Source: EDWIN L. WIECAND CO.
7505 Thomas Blvd., Pittsburgh 8, Pa.



Worker's body absorbs radiation

Men at work loading trucks and box cars, making records at outdoor desks, standing in watchmen's houses, doing maintenance work in cold corners can be kept relatively comfortable by means of the company's radiant electric heating unit. It has ability to transmit through cold air and warm objects in its path while the air surrounding the object remains cold.

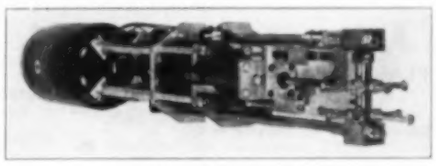
The company has developed a new standard unit equipped with a 6-ft. length of BX cable, a plug and two removable mounting clamps and bolts for permanent or temporary setup above a work position or on the floor or a nearby wall or column. There is also a portable assembly mounted on a truck, with top, bottom and side protection, to be rolled to a point of use.

Three models measure 24½, 30¾ and 46¾ in. in length. They rate 800, 1,100 and 1,800 watts. The first two are available for 110 or 220 volts. The largest is for 220 volts only.

BREVITY—identify by IEN - 2562 if you write the maker

DRILLING . . Motor driven head has pneumatic feed, hydraulic control

Source: BLACK DRILL INC.
1378 E. 222nd St., Cleveland 17, Ohio



¼ to 5 hp. motor

Illustrated is the rear view, to the right, of the hydraulic-pneumatic control mechanism for a new drilling head the company has added to its line, previously described IEN-3939-50. The motor to the left provides rotating drive. The motor shaft acts as the drill spindle and carries the drill chuck on its left-hand end beyond the motor.

The new design provides 4 in. of feed travel. It has a skip-stroke attachment for deep holes and for accurate hole production that requires frequent chip clearing. Operation is in any position.

Air pressure from a shop source provides the feed action against hydraulic control that results in uniform feed and prevents jump action when the drill breaks through. A micrometer stop can be set for depth with accuracy to 0.001 inch. The turret stop assembly with its adjustable screws at the control end provides for 1 to 6 skip-stroke stops.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2563 if you write the maker

With the same dependability, ruggedness and low maintenance that have built an outstanding reputation for other CP products, CP UNIVERSAL ELECTRIC TOOLS are unsurpassed for production line work. There is no premium for the superior quality of these drills, which are sold direct to the user by Chicago Pneumatic, the only major company selling electric tools directly to industry.

Write for Catalog 899-6

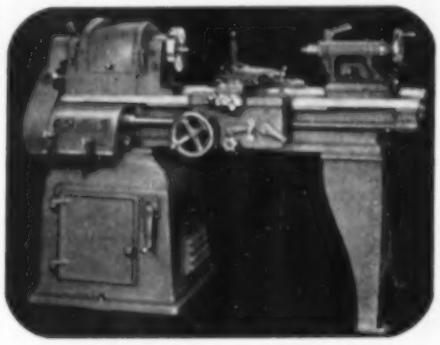
CHICAGO PNEUMATIC TOOL COMPANY
General Offices: 8 East 44th Street, New York 17, N. Y.

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

BREVITY—identify by IEN - 2564 if you write the maker

SOUTH BEND

14½" LATHES FOR FAST PRECISION MACHINING

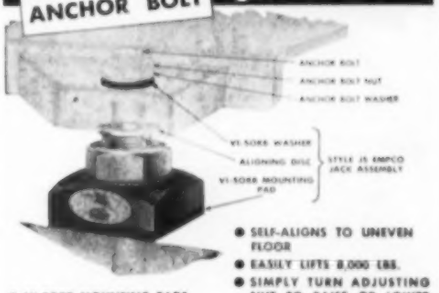


South Bend 14-1/2" Lathes hold down machining costs on work that requires extreme accuracy. They are fast and easy to operate . . . and readily adaptable to a wide variety of jobs. *Write for Catalog.*

SOUTH BEND LATHE
Building Better Tools Since 1906 • South Bend 22, Indiana

BREVITY—identify by IEN - 2565 if you write the maker

NEW JACK LOCATES ON ANCHOR BOLT — *Empco JACK* STYLE JS



- SELF-ALIGNS TO UNEVEN FLOOR
- EASILY LIFTS 8,000 LBS.
- SIMPLY TURN ADJUSTING NUT TO RAISE OR LOWER MACHINE
- VI-SORB MOUNTING PADS ABSORB VIBRATION

Where anchor bolts are used, this new Empco Jack Style JS will save considerable time in setting and keeping equipment level. Tested to support 20 tons and lift 8,000 lbs., this Empco Jack is the answer to any machine installations. Anchor bolt hole through the jack assembly allows clearance for ¾" diameter bolt. This permits the Empco Style JS Jack to be used at the precise spot where equipment was designed to be best supported.
Available in three sizes: 1¾", 2", and 3" (minimum heights) with VI-SORB mounting pads as optional equipment.
Write for specifications and prices of complete line of Empco Leveling Jacks.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 12, MICHIGAN

BREVITY—identify by IEN - 2566 if you write the maker

famco OFFERS A COMPLETE LINE OF 15" DRILL PRESSES

Today's Best Drill Press Value

No. 80 Single Spindle, Tilting Table, Bench Model (shown with motor). Famco Drill Presses are available in a complete line of single and multiple spindle models, bench and floor types.

Here Are a Few of Many Famco Features:

- Heaviest machine in the price field.
- Precision machined throughout.
- Extra-large (2-1/64") quill (largest in price field); greater rigidity, accuracy.
- Extra-long (4½") stroke with shorter spindle means greater bearing support.
- No. 70 to ½" Jacobs Chuck or No. 1 Morse Taper.
- Four sealed for life ball bearings.
- Full-tilting, precision-ground table.
- Quick release motor bracket mounting, furnished as standard equipment; permits belt changes without moving motor.
- Easily adjustable feed tension control.
- Six spline spindle provides constant power and greater rigidity.
- Wide range of spindle speeds.

Write for new catalog just released!

FAMCO MACHINE CO. • 1303 18th ST., Racine, Wisconsin

famco COST CUTTING **machines**

ARBOR PRESSES • DRILL PRESSES • POWER PRESSES • FOOT PRESSES
POWER AND FOOT SQUARING SHEARS

BREVITY—identify by IEN - 2567 if you write the maker

Engineer records month's operating time of automatic screw machine.

ARE YOU GETTING MAXIMUM OUTPUT FROM YOUR MACHINES?

G-E TIME METERS available in conduit, panel, portable models

With production increased and new machinery at a premium, maximum output from present plant equipment is a must. You can check the utilization factor of your equipment quickly and easily with General Electric time meters.

G-E time meters reveal exactly how long your machines are in actual operation. They record operating time in hours, tenths of hours, or minutes . . . show idle time that otherwise might go undetected . . . afford data for more efficient machine scheduling and servicing.

For details, call your G-E representative, or write for Bulletin GEA-4?2, Section 601-120, General Electric, Schenectady 5, N.Y.

GENERAL ELECTRIC

BREVITY—identify by IEN - 2568 if you write the maker

There is a difference

. . . IN CARBIDE TIPPED SAWS!

All carbide tipped saws are NOT alike. No sir . . . MEYCO circular saws are in a class by themselves because the blade and tooth design have been engineered SPECIFICALLY for carbide teeth.

The W. F. Meyers Company has been making precision tools since 1888 and their experience in the field of diamond tooth saws and carbide cutting tools is extensive. This engineering know-how is what has made MEYCO carbide tipped circular tools accepted throughout American industry.

Tungsten carbide's high resistance to abrasion makes it especially adaptable to cutting materials that rapidly wear out the best steel tools. Carbide produces smoother, finer cuts of wood and cells through plastics and other synthetic materials that offer a high resistance to cutting by steel.

And when the saw is properly engineered for tungsten carbide it will run longer between grinds, give you more regrinds—you have a work saving, money saving tool that will increase production many fold. Write for descriptive catalog and price list No. 18

W. F. MEYERS CO., INC., BEDFORD, INDIANA

BREVITY—identify by IEN - 2569 if you write the maker

Pack, Inspect and Assemble

with ISLAND UNITIZED CONVEYOR TABLES

SPEEDS UP PRODUCTION

An all-purpose portable belt conveyor, work table and straight-line production system, with and without side leaves. Available up to 100 ft. long in 10 ft. easily assembled sections.

PORTABLE OR STATIONARY

The perfect mechanized table for assembly, inspection and packaging operations. Available in steel or stainless steel with fixed or variable speed.

FREE!

ISLAND EQUIPMENT CORP.
27-01 Bridge Plaza North
Long Island City 1, N. Y.

Please send Bulletin 1P-1 on Island Unitized Conveyor Tables. Dept. IEI

NAME_____
ADDRESS_____
CITY_____ STATE_____

BREVITY—identify by IEN - 2570 if you write the maker

FURNITURE . . Steel shop stool adjusts for height on the job

Source: STANDARD PRESSED STEEL CO.
P. O. Box 14-A, Jenkintown, Pa.

Finish is in olive green

A steel seat 14 in. in diameter, a square-frame bracket and four sets of double-angle legs make up this new shop stool. Three sizes are adjustable between 18 and 22 in., 23 and 27 in., and 28 and 32 inches, all by 1-in. steps. Eight small bolts are employed, four to fasten the legs to the seat assembly and four to lock the frame bracket to the legs.

The double-angle construction keeps the nuts tight on the bolts and the stool rigid. The seat can be specified with a Masonite top. The legs are fitted with pressed-in slides. Rubber tips can be specified. A back adjustable for height and angle is available also.

BREVITY—identify by IEN - 2571 if you write the maker

CORROSION PROOFING . . Glass fabric to reinforce cold-applied pipe mastic

Source: ROYSTON LABORATORIES INC.
1950 First St., Blawnox, Pa.

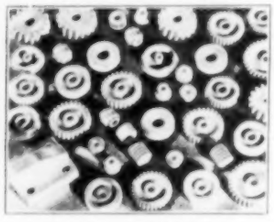
Adds strength to the coating

Glas-Wrap is a new 24-mesh woven glass for use with the company's Roskote cold-applied pipe mastic. It is wound spirally on a pipe following an initial coating of the mastic. Then a second coating is spread over it to complete the operation. Fabric width is 6 to 18 inches. Rolls contain 200 feet.

BREVITY—identify by IEN - 2572 if you write the maker

PLASTIC PARTS . . Molded nylon as specified, sizes to 7/8 in. diameter

Source: JOHN A. ENGLISH & CO.
1002 S. Pennsylvania Ave., Morrisville, Pa.



Tool costs $30 to $75

The company has established a new department and has developed a tool-making procedure that minimizes tool costs and makes it possible to produce parts to specification within two to three weeks from receipt of an order. The parts are made by molding nylon. Small gears, gear blanks, bearings, bushings, worms, rollers, cams, wheels, valve seats are typical examples. Orders as small as 100 pieces are practical.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER — Descriptions — Ratings — See Page 80

BREVITY—identify by IEN - 2573 if you write the maker

CAN WE SERVE YOU

We make PRECISION PAPER PRODUCTS *at a saving to Industry*

PAPER SHAPES

We are equipped to make a wide variety of paper shapes for industrial users. These now include cones, tubes, cores, spools as well as flat and moulded shapes. We can impregnate, color, stamp, wrap, print, perforate, flock, lacquer and construct and finish in any combination of the above processes plus —

Complete laboratory and engineering departments are available for consultation and experimental development. If it can be made out of paper as a substitute for metal or wood and will save money, we can make it.

SONOCO PRODUCTS COMPANY
HARTSVILLE, S. C. HYSTIC, CONN.

BREVITY—identify by IEN - 2574 if you write the maker

The Most Economical

Made of fewer parts, each part of specially selected steel, individually hardened for a specific purpose — they last longer.

CURTIS UNIVERSAL JOINTS

Not only do they give efficient service for a longer period of time but they are easier to install, quicker to assemble and disassemble. 14 standard sizes to choose from—with either solid or bored hubs. Facilities immediately available to produce specials to specifications.

ONLY CURTIS OFFERS ALL THESE ADVANTAGES

Availability — 14 sizes always in stock

Simplicity — fewer parts, simpler construction

Government Tests — complete equipment for government tests in our plant

Write today for free engineering data and price list

CURTIS UNIVERSAL JOINT CO., INC.
7 Birnie Ave. Springfield, Mass.
As near to you as your telephone

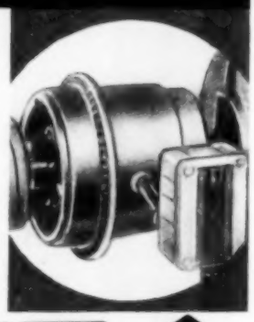
A MANUFACTURER OF UNIVERSAL JOINTS SINCE 1919

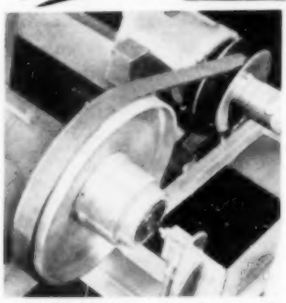
BREVITY—identify by IEN - 2575 if you write the maker

POSITIVE *Overload* **PROTECTION**

ANCHOR-WALDRON

Torque-Sensitive Mechanical Control





COUPLINGS for all direct drives

(Incorporates standard flexible coupling) Operating range 10 to 2,000 inch pounds.

PULLEYS for belt or chain drives

Operating range 20 to 10,000 inch pounds

● These automatic mechanical units make use of increasing torque to control the operation of machinery. They protect machinery from overload and reduce "down time" by eliminating sheared pins. They will also operate signals to give ample warning of build up in load.

Since 1938 many large industries have specified ANCHOR CUT-OUTS. A positive mechanical, electrical, and controlled overload cut-out device. Write for Catalog No. 51.

Also WALDRON Gear Type and Francke Pin Type Couplings. Catalogs on request.

JOHN WALDRON CORP.

NEW BRUNSWICK NEW JERSEY

Sales Representatives in Principal Cities

BREVITY—identify by IEN - 2577 if you write the maker

NEW • NEW • NEW • NEW • NEW

AUTOMATIC SAFETY FEATURE

LINEMASTER

"LEKTRO-LOK" FOOT SWITCH

If you need a foot switch that's small, sensitive, safe, choose Lektro-Lok. Mechanical interlok allows only one circuit to function at a time. Operates on teeter-totter principle with selective circuits — yet single cord receptacle cuts costly harness assemblies.

Lektro-Lok weighs only 10 oz. Made to take it—rugged stamped metal case. It's the new, modern, SAFE foot switch from Linemaster, the Leader!

ONLY $5.25 (less in quantities)

Let us quote on your special problems

Write today for folder and price list

LINEMASTER *the leader*

SIMONDS MACHINE CO., INC.
50 SAXON ROAD • SOUTHBRIDGE, MASS.

BREVITY—identify by IEN - 2578 if you write the maker

and discovered he had saved $$ THOUSANDS through:

1. INCREASED PLANT CAPACITY
2. BETTER QUALITY
3. FUEL SAVINGS

"We never realized how much could be obtained with a mere improvement in steam trapping. It's like a man with dirty eye-glasses—he thinks he's seeing perfectly until he cleans them and finds out how much he has missed.

"We installed 71 Armstrong traps (one on each steam consuming unit) at a cost of about $550. The greater heat in all units showed up in a big production increase and improved quality due to better temperature control. Of course, fuel savings resulted from the more efficient use of steam."

He's* enthusiastic about ARMSTRONG'S. Why not? He found he revitalized his whole plant. It won't hurt to check your own eye-glasses. If there's any doubt, it could pay big dividends to talk it over with your nearby Armstrong Representative.

*name on request

HERE'S A GUIDE TO BETTER TRAPPING

SEND FOR THE 36 PAGE STEAM TRAP BOOK

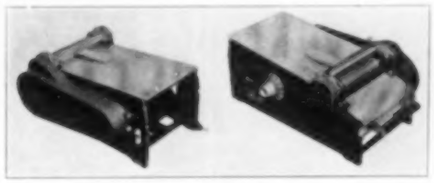
ARMSTRONG MACHINE WORKS
888 Maple Street, Three Rivers, Mich.

ARMSTRONG STEAM TRAPS

BREVITY—identify by IEN - 2580 if you write the maker

SPREADING . . Roller coating machine applies latex to flat work pieces

Source: POTDEVIN MACHINE CO.
283-87 North St., Teterboro, N. J.



Measures 23 by 14½ inches

Type 2RG is a new roller coating machine to take flat materials measuring not more than ½ in. in thickness and from ½ to 5½ in. in width. It feeds latex from a removable tank to a knurled applicator roller for uniform spreading over the work piece surface. Construction includes a safety guard on the rollers, bronze Oilite bearings, a feed table that lifts up to permit removal of the tank roller. Parts in contact with the latex are made of stainless steel.

BREVITY—identify by IEN - 2581 if you write the maker

PAINTING . . Sealer-coater for interior walls, dries quickly

Source: E. I. DU PONT de NEMOURS & CO.
2518 Nemours Bldg., Wilmington 98, Del.

Dries within two hours

Two coats for initial priming and sealing and for final wall finishing can be applied in a regular 8-hr. shift when the company's new Sealer-Coater semi-paste material is employed. It is thinned by adding a pint or a little more of water per gal. for brush application over dry walls, wall boards, oil-type flat wall paints or enamels, resin-emulsion paints. It can be used also over bare plaster following an aging interval so any active alkali has been removed. It is free from odor, is particularly suited as an undercoat for deep-tone flats such as the American colors the company has developed.

BREVITY—identify by IEN - 2582 if you write the maker

JACK . . Toggle load binder employs spring in binding loop

Source: CANTON CAST PRODUCTS CO.
2458-62 13th St. N. E., Canton 5, Ohio

Shock cannot loosen it

Constant tension under conditions of shock and vibration is maintained by the spring now forming a part of the company's load binder, previously described IEN 8054-50. The unit employs the same toggle action as in the initial design. It is available in four models with capacity starting at 10,000 pounds. Hooks are located at each end.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2583 if you write the maker

locate and hold with DE-STA-CO TOGGLE CLAMPS

High holding pressures and precision construction of "De-Sta-Co" Toggle Clamps make this assembly fixture efficient. Locating pins welded to clamp bars locate channels for welding assemblies of varying lengths. Positive holding pressures, up to 4000 pounds in some models, hold parts in close contact essential for good production welding. *The same principles apply to your drilling, machining, bonding, gluing or other production processes.* Quick toggle action permits fast, safe loading and unloading of fixtures, uniform results, even by untrained workers.

Your nearby "De-Sta-Co" Distributor stocks more than 40 models for your convenience. Write for his name and your copy of new catalog issue.

DESTACO **DETROIT STAMPING COMPANY**
342 MIDLAND AVE. • DETROIT 3, MICH.

See our exhibit in Booth 115 at the ASTE show, March 17-21.

BREVITY—identify by IEN - 2584 if you write the maker

for your file....

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Write To:
NORTHERN ENGINEERING WORKS
2615 Atwater St., Detroit 7, Mich.

For Bulletins
T-103 AH-103 H-111 HL-113 G-700

NORTHERN CRANES AND HOISTS

BREVITY—identify by IEN - 2585 if you write the maker

Complete Line of HEAD BLOCKS WINCHES COUNTERWEIGHT SYSTEMS

Loads ranging from a few pounds to 40 tons and more must be hoisted and moved quickly and safely on the theatre stage. The complete line of head blocks, hand and motorized winches and counterweight systems — all standard catalog items — which J. R. Clancy, Inc. has supplied for the stage for 76 years is available to meet the many similar requirements of modern industry.

Send for Catalog

Theatrical Equipment Division

J. R. CLANCY INC.
1620 W. BELDEN AVE., SYRACUSE 3, N. Y.

BREVITY—identify by IEN - 2586 if you write the maker

Delpark FULL-FLOWING SELF CLEANING

COOLANT FILTERS
FOR SOLUBLE OILS and CUTTING OILS

A gravity filter, complete and continuous filtration of the coolant removes heat-bearing solids as it comes from the work. More uniform limits, better finish, and greater accuracy are maintained with a clean wheel and lower coolant temperature.

Compare these points with your present coolant system:

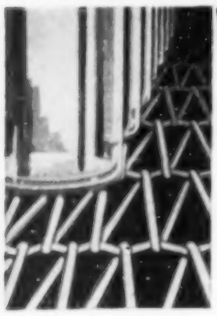
- Keeps wheel clean for faster, more accurate cutting and longer life.
- Less wheel dressing required.
- Uniform coolant temperature.
- Limits more easily maintained.
- Extended coolant life.
- No down time for de-sludging reservoir.
- Less wear on coolant system.

These are but a few of the many advantages offered by Delpark Full-Flowing, Self Cleaning Coolant Filters. For more complete information:

Delpark
INDUSTRIAL FILTRATION
Backed by 30 Years Experience in Industrial Filtration

INDUSTRIAL FILTRATION COMPANY
517 Industrial Avenue • Lebanon, Indiana

BREVITY—identify by IEN-2587 if you write the maker



WISSCO BELTS

assure trouble-free production schedules

Present-day demands for maximum production call for equipment that can be counted on to stand up and deliver dependable, uninterrupted service—particularly where punishing conditions are encountered.

Wissco Metal Processing Belts are specially engineered in various metals and alloys for long-lasting resistance to abrasion, corrosion and temperature extremes.

For additional information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Clinton, Massachusetts

WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

BREVITY—identify by IEN-2588 if you write the maker

JOY WL-80 "UNITAIR"

the Compressor of 1000 uses
81 to 640 CFM

- A size for *every* standard motor rating
- Air cooled . . . Two stage
- Force-feed lubrication
- Small floor-space requirements

Write for this FREE HELP!

New 16-page Bulletin A-56—has complete details and a Selector Chart to help you choose the right compressor for your needs.

Consult a Joy Engineer W&D 15087

JOY MANUFACTURING CO.
General Offices, Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
SALT, ONTARIO

BREVITY—identify by IEN-2589 if you write the maker

bothered by FOUL AIR GAS SMOKE?

CALL INDUSTRIAL AIR

Duo-Duct Showing Path Of Air Stream

The Industrial Air Duo Duct is specially designed to exhaust corrosive gases, fumes, smoke, and to induce draft on boilers. It has two exhaust ducts joined at both the suction and discharge ends. Both motor and bearing are mounted in the internal well, protected from the harmful corrosive effects of exhaust air, smoke or fumes. The internal well is open on two sides for proper and efficient cooling. The entire unit is designed for temperatures as high as 700° Fahrenheit and is available in diameters from 14" through 72", 1000 to 100,000 CFM.

Duct Fans
Direct or Belt Driven
Utility Mae Cooler
Portable Mae Cooler
Roof Ventilators
Duct Type
Tubeaxial
Vaneaxial

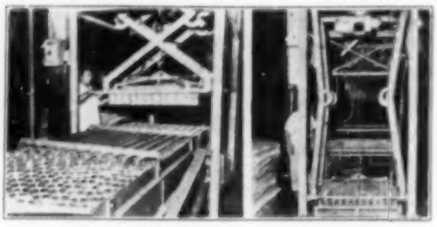
Represented in All Principal Cities
Write Dept. 302 for Catalog of Complete Line

THE HARVEY P. BERTRAM CO.
1008 W. Ninth St. Cincinnati, Ohio

BREVITY—identify by IEN-2590 if you write the maker

HANDLING . . Stacking machine loads and unloads cans on pallets

Source: STANDARD-KNAPP
152 Main St., Portland, Conn.



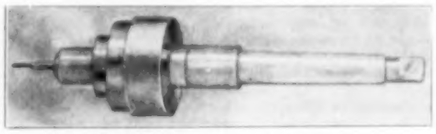
Loads 300 per minute, unloads 1,000

Filled cans are fed from a process operation to the new equipment shown in the illustration. They are arranged in multiple rows by conveyor and divider action so they can be lifted by a suction head in a multiple block and deposited upon a pallet. The equipment is being manufactured by the company under exclusive license from Hawaiian Canneries. A similar power-operated suction head is employed to unload pallets when the cans are to be brought out of the warehouse for labeling and casing.

BREVITY—identify by IEN-2591 if you write the maker

THREADING . . Sensitive head drives 0-80 to 4-40 taps in steel

Source: WINSLOW PRODUCTS ENGINEERING CORP.
5418-22 Jillson St., Los Angeles 22, Calif.



Operator can "feel" the action

Axial movement of a tap, as it feeds into a work piece, is provided within this new sensitive reversing head. The machine spindle in which the head is mounted need not feed forward or retract. Control of the tapping action is by a knurled collar back of the tap. It is held lightly by the operator who applies light pressure forward to start the action, or back to reverse the drive. A factory-adjusted clutch prevents overloading. This clutch can be locked when the work or the size of the tap makes it unnecessary.

BREVITY—identify by IEN-2592 if you write the maker

SILVER . . Production figures in booklet with information on price and use

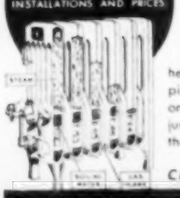
Handy & Harman
80-84 Fulton St., New York 7, N. Y.

Price fluctuations, their causes and effects, occupies most of new 36-page pocket-size "36th Annual Review of the Silver Market." Figures are given on production, consumption, imports and exports, average quotations.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN-2593 if you write the maker

SEND FOR COMPLETE INFORMATION, INCLUDING OPERATING PRINCIPLES, INSTALLATION DATA, TYPICAL INSTALLATIONS AND PRICES



STEAM HEAT! WHERE YOU WANT IT! WHEN YOU WANT IT!

Why should your office employees suffer with the cold this winter—when it's so easy to keep them warm and comfortable with Clow Gasteam Radiators. Quick steam heat! Fingertip control! No hot water pipes, boiler or furnace room to rely on! Inexpensive, because you heat just the area where it's needed—not the whole plant.

Available for City, Butane or Propane Gas

JAMES B. CLOW & SONS
201-299 N. Talman Ave., Chicago 80, Ill.

BREVITY—identify by IEN-2594 if you write the maker

KENT "Fast Cleaning Team"

KENT FLOOR MACHINE scrubs, polishes, steel-wools all types of hard surface floors!

KENT VACUUM CLEANER for Wet or Dry work picks up scrub water . . . dry vacuums floors, walls, overhead pipes and girders, everything, everywhere!

Full information upon request

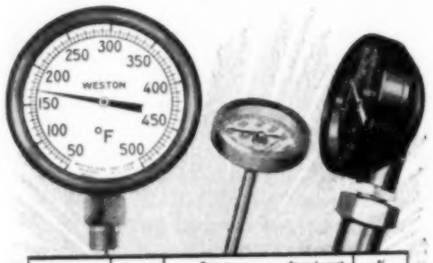
CLEAN WITH KENT EQUIPMENT

THE KENT CO., INC. • 437 CANAL ST. • ROME, N. Y.

BREVITY—identify by IEN-2595 if you write the maker

Available

in broadest selection of types, ranges, stem lengths



Type	Scale Length	Ranges: As low as	Ranges: As high as	Stem Length: As short as	Stem Length: As long as	% Accuracy of Thermo. Range
Heavy Duty Straight Form	9"	−100F	+1000F	2½"	48"	1
Heavy Duty Angle Form	9 or 12"	−100F	+1000F	2½"	72"	1
Standard Angle Form	6"	−100F	+1000F	2½"	72"	1
General Purpose	4½"	−100F	+1000F	2½"	36"	1
Laboratory	3.40"	−100F	+500F	2"	24"	½ of 1

WESTON

all-metal THERMOMETERS

WESTON Thermometers give you *all* the advantages of all-metal construction *to an unmatched degree*. The durability of stainless steel stems . . . the readability of large, boldly marked scales . . . the sustained accuracy due to precision manufacture *proved* through the years. Order through your regular jobber, or your local WESTON Representative. Catalog T-13 on request . . . WESTON Electrical Instrument Corporation, 617 Frelinghuysen Ave., Newark 5, New Jersey . . . *manufacturers of Weston and TAGliabue Instruments.*

WESTON

Temperature Instruments INDICATE · RECORD · CONTROL

BREVITY—Identify by IEN-2597 if you write the maker

Engineered to clear any doorway for unrestricted use...

KINNEAR Rolling Doors

Every square inch of door opening remains fully usable. Traffic flows through freely and efficiently, with these interlocking steel-slat doors coiled compactly over the lintel. Ask about the many other advantages. Catalog on request.

The KINNEAR Manufacturing Co.
Factories: 2380-2400 Fields Ave., Columbus 16, Ohio
1742 Yosemite Ave., San Francisco 24, Calif.
Offices and Agents in Principal Cities

KINNEAR ROLLING DOORS

BREVITY—Identify by IEN-2598 if you write the maker

IT'S HERE!

Grafo R-3

A Smokeless Colloidal Graphite

FORGING COMPOUND

that

Increases die life
Insures surface quality
Eliminates fire hazards

A WORKING SAMPLE SENT ON REQUEST

Other Grafo Colloidal Products Available For All Industrial Lubrication

"Grafo" Colloidal Graphite may be obtained in water, petroleum oil, castor oil, in concentrated, semi-concentrated and ready-to-use mediums.

Write Us Regarding Your Special Application

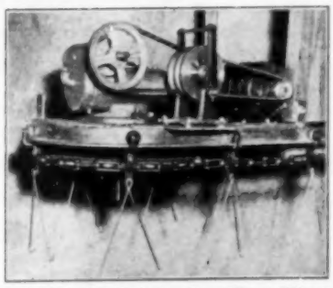
GRAFO COLLOIDS CORPORATION

MANUFACTURERS OF Grafo COLLOIDAL PRODUCTS

299 WILKES PLACE
SHARON, PENNSYLVANIA

BREVITY—Identify by IEN-2599 if you write the maker

KEYSTONE JUNIOR CONVEYORS



100% prefitted, welded joints. No track welding, cutting or fitting required for installation. Easily installed. Low first cost. Overhead or floor supported. Load capacity 80# per trolley. Rivetless drop forged chain 2" pitch. Ball bearing grease packed wheels with drop forged or formed steel trolley brackets.

KEYSTONE JUNIOR CONVEYORS are identical to their big brothers—the 348 and 468 which are the accepted standard throughout the world. The Keystone Junior picks up where the 348 leaves off. Handling loads up to 80# per trolley or total live loads up to 18,000# with a single caterpillar or sprocket drive and where necessary using synchronized multiple drives. It is a little giant. Minimum vertical turns 2'-9" radius, minimum horizontal turns 9" diameter. Turning hooks available for use in spray booths, ovens, etc. Conveyor speeds from 3 F.P.M. to 80 F.P.M. available.

FOR THE CONVEYOR THAT WILL GIVE MAXIMUM ECONOMY AND FLEXIBILITY AT LOW FIRST COST

WRITE FOR BULLETIN #511

KEYSTONE CONVEYOR COMPANY
21750 West 8 Mile Road Detroit 19, Mich.

BREVITY—Identify by IEN-2600 if you write the maker

GAGE . . Electronic comparator reads over and under a master dimension

Source: GRAHAM-MINTEL INSTRUMENT CO.
733-37 Carnegie Ave., Cleveland 15, Ohio

Meter reads instantly

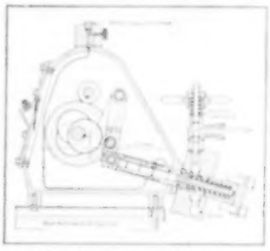
Par-Ac is the third of three new precision electronic gages. It supplements the Indi-Ac electronic indicator for use in gage rooms and tool rooms and the Micro-Ac micro comparator developed to check gage blocks and master gages. The Par-Ac is designed for use as a shop gage for repetitive precision checking of dimensions in comparison with a master set-up.

Assembly consists of an induction-type gage head mounted on a stand as in the other two instruments and a four-tube amplifier which can be set to read plus or minus 0.005 and 0.0005 in. or 0.002 and 0.0002 in. respectively. The work is positioned on an anvil mounted in a holder on the stand either parallel or at right angles to the front of the base. The gage head is positioned vertically by rack and pinion and takes work to 8⅝ in. in height above the anvil. A fine adjustment of 0.04 in. is provided by a knob on the head set to move 0.006 in. per turn. Throat dimension is 3⅝ inches. Required contact pressure is 4 ounces.

BREVITY—Identify by IEN-2601 if you write the maker

PUMP . . Triplex diaphragm unit isolates power from the fluid handled

Source: SCOTT & WILLIAMS INC.
350 Fifth Ave., Room 1827, New York 1, N. Y.



The diaphragms pulsate

Synthetic rubber employed in the three cup-shaped diaphragms inside the chambers of this new Hydropulse pump are anchored and sealed at their open ends. They are mounted on support members in front of the three cam-operated pistons. The diaphragms are caused to expand and contract as these pistons reciprocate to provide the pumping action. The arrangement seals off the fluid being handled from the pumping mechanism to eliminate contamination or to prevent corrosive action.

Drive is by a motor connecting through a pinion and gear to a shaft on which three cams are mounted. These cams are spaced to act through ball-bearing rollers on pivoted arms that terminate in a second set of rollers bearing on the ends of the spring-backed pistons. Ball-type valves control flow of the fluid in the pumping head. Two sizes in the line employ 2 and 5-hp. motors, rate 50 and 150 gph. against 3,000-lb. heads.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

BREVITY—Identify by IEN-2602 if you write the maker

TOLEDO

Mailing and PARCEL POST SCALES

Model 419—5 lb. capacity. Air mail, first class, parcel post, etc.

Control Postage Costs!

Save time . . . stop excess postage costs . . . avoid ill-will of "postage due" . . . with the speed and dependable accuracy of Toledo Scales! Choice of 11 models for mailing and parcel post . . . each with automatic Toledo indication of correct postage. Write for bulletin 3047-B. Toledo Scale Company, Toledo 1, Ohio.

Model 3659—Full capacity parcel post and express scale. Computes for all zones.

TOLEDO

HEADQUARTERS FOR SCALES

BREVITY—Identify by IEN-2603 if you write the maker

For Dependable, High-Pressure Connections

BLACKBURN *Hi-Strength* **CONNECTORS**

High pressure connections are the best electrical connections. They are also the best mechanical connections because tests show that they have better ability to stay tight—are trouble-free once installed.

All connectors in the famous BLACKBURN Hi-Strength Line produce high pressure connections. Also, they are priced right to give you low cost connections that you can depend upon . . . Be sure to specify BLACKBURN!

SEND FOR CATALOG
JASPER BLACKBURN CORPORATION
35 Madison St. • St. Louis 6, Mo. • CEntral 3007

BREVITY—Identify by IEN-2604 if you write the maker

CUT — Choose the right blade for any job from the complete line of STARRETT band and power hacksaw blades. They cut quicker, last longer.

SAW — STARRETT Band Saws for cutting metal, wood, plastics. Furnished in coils in new handy reel dispenser or cut to length and welded.

SLICE — For soft or fibrous materials. Available in a complete range of sizes in straight-edge, scallop-edge or wavy-edge types—single or double bevel.

FASTER, BETTER WITH

Starrett

HACKSAWS · BAND SAWS

BAND KNIVES

VALUABLE INFORMATION

Starrett Hacksaw and Band Saw Catalog gives cost, performance and application data for the complete line of hacksaws, band saws and band knives.

Starrett Quick Reference Metal Cutting Guide instantly gives complete information for cutting any metal by hacksaw or band saw.

Starrett

THE L. S. STARRETT COMPANY ATHOL, MASS. U.S.A.

BUY THROUGH YOUR DISTRIBUTOR

BREVITY—Identify by IEN-2605 if you write the maker

PLATECOIL

(REPLACE PIPE COILS)

cost less than fabricating **pipe coils** in your own plant

You can buy Platecoils for less money than it costs to fabricate pipe coils in your own plant. You also save critical steel because Platecoils require less than ½ the steel used in pipe coils of the same surface area. Installation takes far less time as Platecoils are mounted on simple hangers instead of the complicated racks needed for pipe coils. They take 50% less space.

Send for complete technical manual and descriptive Bulletin No. P56.

PLATECOIL
KOLD-HOLD MFG. CO.
LANSING 2, MICHIGAN

BREVITY—identify by IEN-2606 if you write the maker

feature for feature...
THIS NEW SQUARE D VOLTAGE TESTER
Tops them ALL!

for further details, write Square D Company, 6060 Rivard Street, Detroit 11, Michigan
ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS
SQUARE D COMPANY
DETROIT MILWAUKEE LOS ANGELES

BREVITY—identify by IEN-2607 if you write the maker

HANSEN
"PUSH-TITE"
PNEUMATIC-HYDRAULIC COUPLINGS

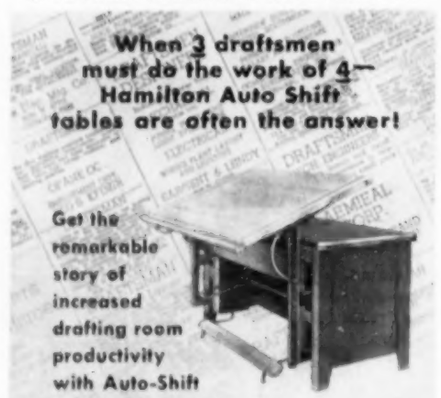
Positive shut-off in socket immediately upon disconnection by removal of plug. To connect, simply push plug into socket. To disconnect, merely pull back sleeve. Holds high pressures. Swivel action prevents hose kinking. Pipe or hose connections. Socket, brass; plug, steel. Size range ⅛" to 1".

Also straight-through, and two-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY
4621 WEST TOWN STREET • CLEVELAND 11, OHIO

BREVITY—identify by IEN-2608 if you write the maker

When 3 draftsmen must do the work of 4— Hamilton Auto Shift tables are often the answer!



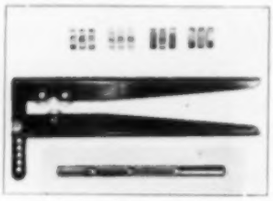
Get the remarkable story of increased drafting room productivity with Auto-Shift tables from your Hamilton Representative soon.

HAMILTON DRAFTING EQUIPMENT
Hamilton Manufacturing Company
TWO RIVERS, WISCONSIN

BREVITY—identify by IEN-2609 if you write the maker

KNURLING . . Plier type tool for work from 5/32 to 2 in. diameter

Source: M. P. A. CO.
1676-80 W. 17th Place, Los Angeles 6, Calif.



Tool and set of rolls $12.50

Handy Knurler is a new hand-held tool that applies a set of three knurling rolls on work being rotated or by rotating the tool around stationary work. It raises the surface from a few thousandths to twenty or thirty thousandths of an inch depending on the knurl pattern. It is suited for reclaiming worn parts as well as in knurling for decorative purposes and to provide a good grip. Parts are made of heat treated steel, lined for protection against corrosion. The tool is furnished with a set of three rolls that cut the medium diagonal pattern. Additional sets of rolls in fine, medium or coarse patterns of straight or diagonal design list at $3.00.

BREVITY—identify by IEN-2610 if you write the maker

DOOR . . Steel rolling design, section of transparent plastic slats

Source: KINNEAR MFG. CO.
4002 Fields Ave., Columbus 16, Ohio

Operator can see out

A window can now be specified in the company's slat-type steel rolling door so operators can see through and so daylight can enter when the door is closed. The window consists of interlocking transparent plastic slats located at eye level in the regular assembly of steel slats. The steel units are galvanized and equipped with end locks to maintain alignment.

The metal curtain formed by the assembly rides in steel guides and coils upon a barrel carried across the top in heavy duty brackets. Helical springs providing counterbalancing action are enclosed within the barrel. A metal hood covers both barrel and coil. Hand or power operation is available.

BREVITY—identify by IEN-2611 if you write the maker

TESTING . . Instruction manual on electro-analysis unit for copper and lead

Eberbach Corp.
P. O. Box 61-A, Ann Arbor, Mich.

Bulletin 340 originally was prepared for distribution as an operating manual on the company's Electro-Analysis apparatus. It is offered on request to acquaint you with methods of analyzing copper and lead by an electroplating method. Its 20 pages contain instructions, notes on interfering elements and substances, a bibliography, schematic and pictorial diagrams of the equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN-2612 if you write the maker

"M-B" AUTOMATIC *Air Line* **FILTER, REGULATOR and LUBRICATOR ASSEMBLY**

"Sentinel of the Air Line

Also Pneumatic Grinders

"Remember, Built-in quality remains long after first-cost disappears"

FILTER element removes solids .00039 and larger. **TRANSPARENT BOWL** provides visibility. **REGULATOR** is capable of passing large volume with an unrestricted flow and minimum amount of pressure drop. Self-bleeding, compact, simple. Machined from bar aluminum. **LUBRICATOR** delivers desired volume of oil. Adjustable Venturi Valve permits efficient operation on broad range of volume and pressure. Bowl can be refilled without shutting off air supply. Any of these 3 devices can be used as separate units or in any combination.

Write for Literature

M-B PRODUCTS
46 Victor Ave.
DETROIT 3, MICHIGAN

BREVITY—identify by IEN-2613 if you write the maker

recorders
RECORD TIME • COUNT QUANTITY AND WEIGHT

Actuated by an electrical impulse operates on the output of a scaler, photo tube, limit switch or any similar device. Records counts with relation to time and quantity on a roll of tape . . . automatically resets to zero.

In Radioactive Research, it saves precious man hours and results in greater economy and efficiency.

In Industry, it maintains a permanent record automatically, recording production and time each hour.

Whatever your counting problems, our Engineering Department can adapt these Recorders to meet your particular need.

Write for interesting Booklet SC 12

AUTOMATIC WEIGHT RECORDERS SINCE 1888

STREETER-AMET COMPANY
4101 N. RAVENSWOOD AVENUE • CHICAGO 13, ILLINOIS
SCALES • WEIGHT RECORDERS • HI-SPEED COUNTERS

BREVITY—identify by IEN-2614 if you write the maker

MOLDED ITEMS OF RUBBER SYNTHETIC RUBBER AND SILICONE

FOR THAT EXTREME HIGH OR LOW TEMPERATURE JOB SILICONE RUBBER IS THE ANSWER

BONDING OF RUBBER TO METAL

ADVANCE RUBBER CO.
INC.
1702 Washington Ave. No., Minneapolis, Minn.
AL 4717

BREVITY—identify by IEN-2615 if you write the maker

MICO ENGRAVERS

espensive and portable machine for engraving name plates and panels, forming small molds and dies, and profiling small parts. Geometrically correct for true three dimensional work. Accurately duplicates master copy in metals, plastics or wood. Rugged, sturdy construction.

COMPARE THESE SUPERIOR FEATURES
- Engraves in 2 or in 3 dimensions.
- Pantograph permits 4 reduction ratios.
- Micrometer depth control graduated in thousandths of an inch.
- High speed, ball bearing spindle.
- Chuck ¼" to take variety of small tools, burrs, mounted points, as well as standard cutters.

Send for Illustrated Catalog
MICO INSTRUMENT COMPANY
81 Trowbridge Street Cambridge, Mass.

BREVITY—identify by IEN-2616 if you write the maker

Sutton MOTOR DRIVEN PRESSURE BLOWER

THREE SIZES ¼, ½, 1 H.P.

ORDERED BY EVERY BIG NAME IN THE COUNTRY!

USED FOR EXHAUSTING DUST, SMOKE, FUMES, VAPOR . . . COOLING AND DRYING . . . CONVEYING COTTON, WOOL, SHAVINGS . . . FORGE BLASTING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY to reduce weight and increase strength. CENTRIFUGAL TYPE. Delivers even, nonpulsating flow of air. Universal as to rotation and discharge. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities: 100 to 800 cu. ft. per min. at static pressures from ½" to 6".

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp.
126 W. WILSON AVENUE NORFOLK, VIRGINIA

BREVITY—identify by IEN-2617 if you write the maker

BREVITY—identify by IEN-2619 if you write the maker

HEAT TREATING . . Unit assembly for all operations on small tools

Source: WALTZ FURNACE CO.
1903 Symmes St., Cincinnati 6, Ohio

Detailed in Bulletin 200

Three compartments measure 8 by 6 by 14 in. and provide temperatures to 1,200 deg. F., 1,850 deg. F. and 2,400 deg. F. in this new self-contained assembly of electrically-heated equipment for tool room use. Two of the compartments are assembled one above the other in a housing that measures 23 by 23 by 60 inches. The other is at the top of a housing measuring 28 by 36 by 60 inches. This latter housing is open at the lower rear for an Endogas atmosphere generator. It is supplied with its own blower and flowmeters to adjust the proportion of air to gas for the heating chambers.

In the center of the assembly, as it is shown in the illustration, is a third housing that measures 24 by 20 by 36 inches. It mounts two quench tanks measuring 9 by 18 by 18 inches. One is for oil and one is for water. Each is equipped with a work basket. At the back of this housing is an oil-circulating pump with its own motor drive. Mounted on the rear of the housing is the required Wheelco control equipment for the complete installation.

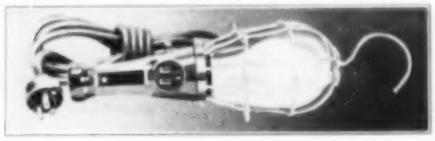
The door on the drawing furnace is double swing design. The other two are raised and permitted to lower by operating foot pedals at the front of the housing. All are self-sealing to the housing.

Heat is supplied in the drawing and preheat compartments by nickel-chrome wire elements and the heated air is recirculated for temperature control in the lower ranges. The high-heat furnace employs Globar heating elements and a transformer. Each compartment is served by a suitable contactor operated by the control instruments. Standard input is on 220-volt 60-cycle single-phase ac. Suitable arrangement of the three unit assemblies can be made to fit into a given location.

BREVITY—identify by IEN-2620 if you write the maker

LIGHTING . . Extension lamp holder with convenience outlet, grounded cord

Source: McGILL MFG. CO.
100 N. Lafayette St., Valparaiso, Ind.



Mounts Levolier switch

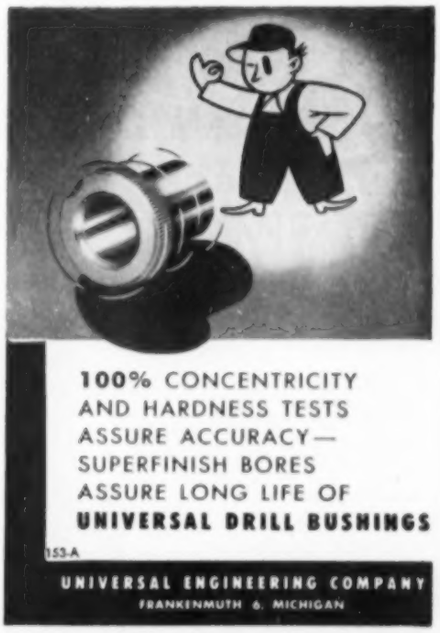
Series 5000-G is a new lamp holder with screw socket and an auxiliary-line receptacle molded into the impact-resistant plastic handle. The assembly includes a wire guard, plain or with a reflector. The extension cord is a 3-wire unit terminating in a plug. There are four projections of formed wire on the guard so the holder cannot roll.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN-2621 if you write the maker

BREVITY—identify by IEN-2622 if you write the maker

BREVITY—identify by IEN-2623 if you write the maker



BREVITY—identify by IEN-2624 if you write the maker

● Cords, Ltd. engineers and builds standard and special cord sets for any application. Proved dependability.

Most comprehensive stock of moulds and dies in existence for production of electronic cords and assemblies.

When you bring your cord problems to us you get the experience of the vast Essex Wire organization, plus integrated production of every component from wire bar to finished assembly. Write for details, explaining application.

WIRE SX PRODUCTS
CORDS LTD.
DIVISION ESSEX WIRE CORPORATION
121 DODGE STREET, DEKALB, ILLINOIS

BREVITY—Identify by IEN - 2625 if you write the maker

how much is bearing trouble affecting your products' reputation?

It can you know — and yet it is so easy to avoid machinery inefficiencies traceable to bearing failures. Just be sure to specify one of the MULTIROL full type roller bearing series. Each is designed for a specific kind of service and has proven ability to carry greater loads longer with more precision and less maintenance. Their dependability will help keep your machinery at its peak. Select one of the following types and write today for more details in the new McGill Bearing Catalog No. 52.

SE Series

Multirol SE Series Bearings have an exclusive small roller design that provides maximum load carrying capacity in a limited radial space plus smooth, anti-friction performance. They often permit reduced housing size and cost.

Rollers Roll More Load

Write today for new Catalog No. 52. McGill Manufacturing Co., Inc., 100 No. Lafayette St., Valparaiso, Indiana.

McGILL precision bearings

BREVITY—Identify by IEN - 2626 if you write the maker

BOSS

THE BEST KNOWN NAME IN

WORK GLOVES

There's a perfect Boss Glove for *every* job

WHITE CANTON FLANNEL GLOVES

DOUBLE PALM GLOVES

HOT MILL GLOVES & MITTENS

LEATHER PALM GLOVES

JERSEY GLOVES & MITTENS

ALL LEATHER GLOVES

WALLOPER 643
A BOSS head-liner. Complete range of styles shown in catalog.

ASK YOUR DISTRIBUTOR or send for free copy of complete catalog and new "WORK GLOVE SELECTOR." The quick and easy way to find exactly the right glove for every job. Also see "Thomas Register," 1952 Edition.

THE BOSS MANUFACTURING CO., DEPT. IE-3, KEWANEE, ILL.

BREVITY—Identify by IEN - 2627 if you write the maker

Try the MODERN

SAFETY DRILL TABLE

Under our FREE TRIAL OFFER

For Faster, SAFER Work in your Maintenance Department

Combines a drill table, a vise, a set of parallels and V block. No more lost fingers from hand held jobs that slip. No more 30 minute set-ups for a 1 minute drilling operation. Made in 6 sizes from 8" to 28" dia. We guarantee each Safety Drill Table will save its cost on labor alone in 6 months, to say nothing of plant down time when vital maintenance is delayed even a few minutes.

Write for Free Folder

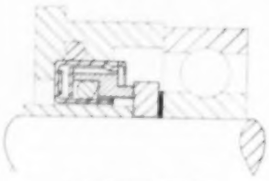
Shows many typical set-ups, and use on radial drills. Complete specification on all models. Covers MONEY BACK GUARANTEE and 30 DAY FREE TRIAL OFFER.

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

BREVITY—Identify by IEN - 2628 if you write the maker

SEALING . . Self-contained assembly prevents axial leakage along a shaft

Source: CARTRISEAL CORP.
1447-51 W. Randolph St., Chicago 7, Ill.



For specified service

Stationary element acting as the sealing member in this new self-contained seal is enclosed within a pressed-metal housing. It is sealed by an O-ring and held in position by a flat ring spring. The formed-metal housing presses into place in a machine assembly in connection with a second seal ring to present the outer bearing surface of the element for contact with a rotating seal member secured to the shaft.

The company is prepared to supply the unit in specified dimensions without limitations on the shaft diameter and for shaft speeds ranging to 20,000 rpm. Various types of sealing material can be supplied for temperature to 700 deg. F. to seal liquids or gases, depending upon the service.

BREVITY—Identify by IEN - 2629 if you write the maker

ASSEMBLING . . Power equipment assembles hydraulic couplings on hose

Source: PYLES INDUSTRIES INC.
8924-28 Second Ave., Detroit 2, Mich.

Makes permanent assembly

Motor-driven machine to cut hose to length and apply a wire brush for preparation of its ends to receive a coupling, a motor-driven spinner to insert a coupling and a power press by which the outer sleeve and coupling are swaged together, all mount on a steel cabinet in this new equipment. Floor space measures 67 by 29 inches. Drawers are included in the cabinet to hold the accessories and the hose parts as well as the drawing dies for each hose and coupling size. An operator can assemble couplings in both ends of a hose in about four minutes. Operation is on 115-volt 60-cycle single-phase ac.

BREVITY—Identify by IEN - 2630 if you write the maker

MANAGEMENT . . How the "Sharing" attitude works described by book that tells of one company's experience

Updegraff Press Ltd.
Harwood Bldg., Scarsdale, N. Y.

"Sharing a Business" titles new 150-page book, list price $2.75, based on the philosophy employed by the management of Jewel Tea Company. Author is Franklin J. Lunding. He tells how the company grew as it shared its business with its customers, its employees and the community. One chapter cites proof of the value of "sharing" as shown by results of a psychological survey among the company's employees.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2631 if you write the maker

ONE OF AMERICA'S BROADEST LINES OF HORIZONTAL ALL-PURPOSE PUMPS

ILLUSTRATED 2, 3, 5 HP ELECTRIC DRIVE

PEERLESS TYPE PE & TYPE PR PUMPS

PEERLESS PUMPS

OTHER PEERLESS TYPES:

Fractional hp close-coupled

Integral hp flexible-coupled or V-belt drive

Close-coupled & flexible-coupled pumps ½ to 150 hp—up to 5500 gpm

Write today for Peerless Bulletin No. B-2300. Illustrated with views of all pumps in the Peerless Fluidyne line. Includes sectional drawings, elevations, dimensional data and head-capacity characteristics. You can buy and apply right from this bulletin.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta, Dallas, Fairview and Lubbock, Texas, Fresno, Los Angeles, Phoenix, Albuquerque, N. M., Tulsa

BREVITY—Identify by IEN - 2632 if you write the maker

TOUGH NEW WORK GLOVE with a TOUGH NEW COATING

SILVERTEX

These toughies will save you money, keep all hands cooler. Silvery coating reflects moderate heat radiation, resists cuts, snags, abrasion, and chemicals, won't crack or peel. Curved finger design, swing thumb, all standard styles.

Write for name of your distributor.

THE SURETEX RUBBER CO. 100 Hall Avenue Carrollton, Ohio, Dept. I

IN CANADA: Safety Supply Company, Toronto, Ontario

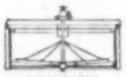
BREVITY—Identify by IEN - 2633 if you write the maker

HARDINGE PROCESS EQUIPMENT

for . . .

Clarifying
Classifying
Drying
Feeding
Filtering
Grinding
Pulverizing
Thickening

GRINDING MILLS OF ALL TYPES



THICKENERS CLARIFIERS HYDRO-SEPARATORS

CONSTANT-WEIGHT FEEDERS

Write for Bulletin 100-38.

RUGGLES-COLES ROTARY DRYERS, KILNS AND COOLERS

HARDINGE
COMPANY, INCORPORATED

YORK, PENNSYLVANIA—240 Arch St. Main Office and Works

NEW YORK 17 • SAN FRANCISCO 11 • CHICAGO 6 • HIBBING, MINN. • TORONTO 1
122 E. 42nd St. 24 California St. 205 W. Wacker Dr. 2016 First Ave. 200 Bay St.

BREVITY—Identify by IEN - 2634 if you write the maker

Plantman

MOTORLESS INDUSTRIAL FLOOR SWEEPER

Write for FREE booklet No. 71 on MECHANICAL FLOOR SWEEPING.

HANDLING DEVICES CO. INC.
501 BOYLSTON ST., BOSTON 16, MASSACHUSETTS

BREVITY—identify by IEN - 2635 if you write the maker

for better marking use

FOR MARKING PRODUCTS, PARTS, PACKAGES, TAPES, TAGS, LABELS — FLAT, CURVED, IRREGULAR SURFACES

THE MARKEM METHOD

Markem machines, types, and inks constitute a better method for marking the products of industry. Markem equipment is engineered to solve special marking problems. Behind the Markem method lies nearly half a century of marking experience which may be applied to your marking problem.

MARKEM MARKING MACHINES

There is a Markem marking machine for practically every marking purpose — for direct marking of product packages, products, and product parts — for imprinting labels, tags, tapes, and special gummed, pressure-sensitive or heat-seal backed material, or for producing complete labels. Makes up to many thousand durable imprints per hour on almost any kind of material. No special skill needed to operate. Legend and color of imprint quickly and easily changed.

MAKE YOUR MARK WITH MARKEM

Whether you make suits or sox, spark plugs or shoes, TV tubes or tachometers, drugs or hand grenades — whatever your marking problem — find out how easily and economically the Markem method can handle it. Just send a sample of the item to be marked and details of your needs to Markem Machine Company, Keene 2, New Hampshire.

MARKEM — BETTER MARKING SINCE 1911

BREVITY—identify by IEN - 2636 if you write the maker

Kimpak* Float Packaging

TOOL SET
Snap-on Tools Corporation

Cuts shipping costs – reduces damage in transit!

Do you handle your product with extreme care during the manufacturing process—then trust it to outmoded, inferior quality cushioning materials after it leaves your shipping room? You may not be able to answer that question if you haven't seen KIMPAK* Float Packaging at work.

It's the modern way to ship anything from delicate glassware to furniture and appliances; from tools and hardware to flowers and food. It's also one of the most efficient packaging methods in the world—giving optimum protection at minimum cost.

KIMPAK creped wadding is as neat, clean and easy to apply as wrapping paper. It's designed to absorb continuous vibration, ward off severe shocks, cushion and defend your product against roughest handling. This highly efficient cushioning material protects the finest finish from scratching, bruising, pressmarking and "burning."

Call your KIMPAK distributor today for further information, or write to Dept. IEN, Kimberly-Clark Corporation, Neenah, Wisconsin.

Kimpak
REG. U.S. PAT. OFF. & FOREIGN COUNTRIES
A product of Kimberly-Clark
CELLULOSE WADDING

*REG. U. S. PAT. OFF.

BREVITY—identify by IEN - 2638 if you write the maker

CONNECTOR . . Sleeve assembly to ground braided cable shield

Source: THOMAS & BETTS CO.
60-A Butler St., Elizabeth 1, N. J.

Outside diameter 0.152 to 0.453 inch

Hard metal inner sleeve and a soft metal outer sleeve, both cylindrical at the start, make up a new cable-sheath grounding connector for application with special tools supplied by the company. The connector locks a shield-grounding wire or lug for cable in critical radio and audio-frequency circuits.

The inner sleeve applies between the conductor insulation and the shield braid. The outer sleeve slips over the braid. The grounding wire or lug lies between the outer shield and the braid. The special tool clamps the outer shield down, forming it into a hexagon shape in the final assembly.

BREVITY—identify by IEN - 2639 if you write the maker

INSULATING . . Baking varnish for use at temperatures to 400 deg. F.

Source: ELECTROFILM CORP.
7114-18 Laurel Canyon Blvd., North Hollywood, Calif.

$16 per gallon
$4.25 per quart

Insul-Film is a new insulating varnish characterized by its resistance to attack by solvents, abrasives, by its good adhesion qualities and its ability to withstand severe vibration. Application is by spraying, brushing or dipping with bake interval of about one hour at 300 to 400 deg. F. The company is prepared to supply a sample kit at a list price of $1.

BREVITY—identify by IEN - 2640 if you write the maker

SCREW DRIVING . . Hand tool with removable Phillips bits

Source: CONTINENTAL SCREW CO.
700 Mt. Pleasant, New Bedford, Mass.

For quick bit change

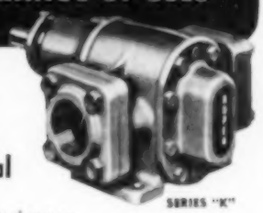
Hy-Pro is a new adapter-type hand driver and holder available with four sizes of Phillips bits including a No. 2 insert bit that will drive most of the sizes of Phillips recessed-type heads. When a bit wears out it can be removed and replaced. The driver and bits are packaged 6 to a box. The bits are available also in boxes of 100 or in transparent envelopes containing 25.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BREVITY—identify by IEN - 2641 if you write the maker

ROPER rotary PUMPS

DEPENDABLE SERVICE FOR A WIDE RANGE OF USES



SERIES "K"

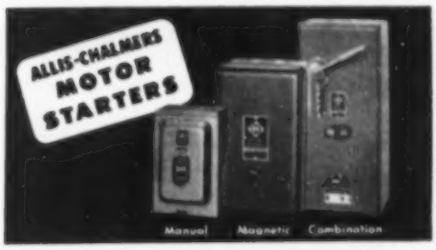
- Quiet
- Efficient
- Economical

The *Series K* pump shown — for hydraulic service and fuel supply — is one of four standard models in the Roper line. Others include: *Series F* for use with clean liquids of all kinds; *Series H* for high pressure applications, especially hydraulic mechanisms; and *Series 5600* for general purpose work handling thin or thick liquids. Roper Pumps are noted for quiet operation, high volumetric efficiency, and ruggedness coupled with compact design. Models are standard fitted or bronze fitted; can be supplied with or without built-in relief valve. Sizes range from 3/4 to 300 G.P.M. — Pressures to 1000 P.S.I. Send for catalog to know complete details.

GEO. D. ROPER CORP.
303 Blackhawk Park Ave.
Rockford, Illinois

ROPER Rotary Pumps

BREVITY—identify by IEN - 2642 if you write the maker



FOR EVERY CONTROL NEED!

THERE IS A SELECTION of Allis-Chalmers starters from which you can choose the one just right for your needs. For example, if you need across-the-line starters to control motors operating on 110 to 600 volts:

Manual Starters are small, inexpensive, suitable for mounting on small machines. Start and stop buttons are on the starter. Sizes 0 and 1 for motors to 7½ hp.

Magnetic Starters offer the convenience of either local or remote control . . . provide thermal overload protection and undervoltage protection or release. Sizes range from 0-7 for motors from fractional to 600 horsepower.

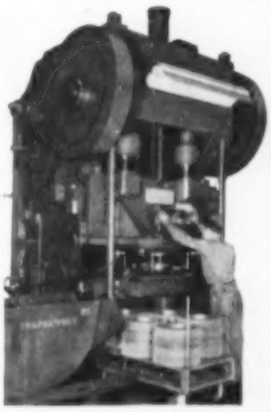
Combination Starters save installation time and wiring costs when both a magnetic starter and a disconnect switch are required. Sizes 0-5 for motors to 200 horsepower.

Contact your nearby A-C representative, or write Allis-Chalmers, Milwaukee 1, Wisconsin for Bulletin 14B7132.

A-3636

ALLIS-CHALMERS

BREVITY—identify by IEN - 2643 if you write the maker



Clutch plates of sizes 11¾" to 22¾" O.D. are made with this 300 ton Steelweld Press.

2000 CLUTCH PLATES PUNCHED PER SHIFT

Many unusual jobs far afield from bending can be done economically on Steelweld Presses built with simple variations to suit requirements. The machine illustrated provides a low-cost method of punching clutch plates of 11 to 13 gauge metal.

STEELWELD BENDING PRESSES CATALOG No. 2010

Send for free copy of catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
4237 East 281st St. Wickliffe, Ohio

STEELWELD PRESSES

BREVITY—identify by IEN - 2644 if you write the maker

STRIPS WIRE CLEAN IN 2 SECONDS!

IDEAL Stripmaster
(Patent Pending)

6 MODELS —for all wire gauges 8 to 22—Also POTS —FM and TV down lead wires.

Easier, Faster—No Cut Fingers! . . . One Light Squeeze Strips Clean . . . Can't Crush Wire. Unique in design—unique in performance! One easy squeeze strips up to 7/8 in. Exclusive "automatic" feature holds jaws open while wire is removed — positively prevents crushing. Just insert wire, squeeze and release! Weighs only 10 oz. — fits in pocket. Blade can be changed in a jiffy! See the Stripmaster at your IDEAL Distributor's or mail coupon below.

SOLD THROUGH AMERICA'S LEADING DISTRIBUTORS

OTHER WIRING TOOLS
- ☐ Voltage Testers
- ☐ Fish tape, reels and pullers
- ☐ Joist borers
- ☐ B-X cutters
- ☐ Fuse clip clamps
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- ☐ Test lites

IDEAL INDUSTRIES, Inc.
1108 Park Avenue, Sycamore, Illinois

Please send free catalog information on Stripmaster and other wiring tools as checked.

Name _____
Company _____
Address _____
City _____ Zone ____ State ____

BREVITY—identify by IEN - 2645 if you write the maker

GET DUMORE

the drill head with automatic built-in controls

- **New Resistance Drilling** — Work-piece material governs feed and speed rate.
- **Self-Contained Air** — Simple low cost electric outlet. Built-in air compressor feeds drill in proper rate.
- **Air Pressure Regulator** — 10 to 15 psi. Operator sets to compensate for drill size and workpiece material.
- **Adjustable Stroke Control** — Stops motor during drilling depth from 1/32" to 1-1/8" ± .004" accuracy.
- **Automatic Chip Clearance** — Depth stopping stimulates chip clearing.

Get the information on this revolutionary tool. See how it stops operator guesswork provides flexible setup. Combines big cost reductions with low price tag. Write for bulletin.

THE DUMORE COMPANY
1319 17th ST. • RACINE, WIS.

and get all these cost reducing benefits

Motor manufacturer doubled output, eliminated drill breakage.

Fabricating on frame assembly machine doubled output. $75 on $10 job.

Sound equipment manufacturer cashed in on big savings.

BREVITY—identify by IEN - 2646 if you write the maker

Abart Speed Reducers are precision built to give you years of maintenance-free service, even under severe operating conditions. There are 75 models in the complete line of Abart Speed Reducers...one of which will meet your exact requirement for each specific application. Ratings from 1/50 to 168 h.p. and ratios up to 10,000 to 1. Abart Speed Reducers are compact, oil-tight and sealed against dust. For heavy-duty, precision speed reducers, specify Abart.

SEND FOR COMPLETE CATALOG

It will aid you in selecting the Abart Speed Reducer which is exactly suited to your need.

Abart GEAR & MACHINE CO.
4823 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears and Speed Reducers

BREVITY—identify by IEN - 2647 if you write the maker

Engineering Data

Complete, concise, practical . . . dealing with the application of SYNCHRON timing motors, time machines, gear trains, and D.C. motors for special timing jobs.

To Help You

solve your timing problems, adapting standard timing machines or designing new.

Design for Defense

Hansen D.C. Motors powered Servo units in last World War. Improved products, and enlarged design and manufacturing facilities for precision production are available for defense contracts.

Pulls up to 1 oz. directload at 1 R.P.M. Operates efficiently at 40° to +140°F. Available with gear trains to convert any speed.

SYNCHRON timing motors

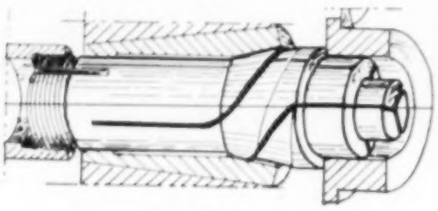
HANSEN MANUFACTURING CO., INC., PRINCETON 2, INDIANA
Send catalog and engineering data to:

Name _____
Firm _____
Address _____
City _____ Zone ____ State _____

BREVITY—identify by IEN - 2648 if you write the maker

CHUCK . . Collet type mandrel expands to grip in a work piece bore

Source: E. WESTBERG CORP.
802 Beley Ave., Syracuse 11, N. Y.



15 piece 5C set $400

Milled slots in this new single-piece heat-treated steel mandrel form three fingers terminating in a shoulder at the outer end to insert in the bore of a work piece. The mandrel can be supplied with multiple shoulders each having a range of about 1/32 inch.

The segments are forced to deflect outward due to their spiral design when the mandrel is tightened in the machine. This provides the gripping action. Sizes correspond with those for standard collets. The same standard numbering system is employed. Manufacture at present is in a 15-piece set in a hardwood box. Size range is between 1/4 and 1 1/2 in. in Type 5C.

BREVITY—identify by IEN - 2649 if you write the maker

DRIVE . . Motor and speed reducer are integral, 1 to 10 hp., 5 to 25 rpm.

Source: U. S. ELECTRICAL MOTORS INC.
202 E. Slauson Ave., Los Angeles 54, Calif.

Bulletin present details

Ratio range for this new Type-GM assembly of flange-mounted motor and triple-reduction gearing is maximum at 175 to 1. A feature in the design is the use of two secondary pinions driving the output gear for even distribution of the load through a splined herringbone pinion. Construction includes the company's design of asbestos-protected windings, solid Centricast rotor, Lubriflush lubrication.

BREVITY—identify by IEN - 2650 if you write the maker

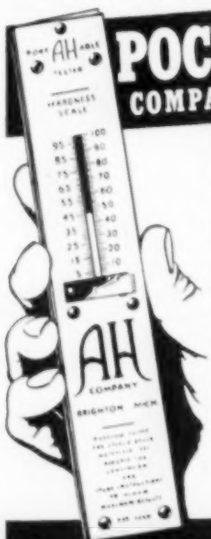
PAINTING . . Properties and uses of paints, varnishes, lacquers in pocket booklet

Heckel Publishing Co.
1522-26 Chestnut St., Philadelphia 2, Pa.

New 11th Edition is announced for the "Paint, Varnish and Lacquer Catechism," a 160-page pocket-size data book that lists at $1. It represents complete revision over the 10th edition previously reviewed IEN-0605-51. It is set up in question-and-answer form, starting with "What is paint?" and concluding with "How should spray equipment be used?" Topics include composition, manufacture, properties, application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2651 if you write the maker



POCKET-SIZE COMPARATOR TESTER

- A compact, low cost precision tester which will fill a dozen needs in your plant.
- Easily carried anywhere and used on-the-job by anyone.
- Gives accurate surface elasticity readings, easily converted to Rockwell or Brinnell.
- Hundreds in daily use in all types of industry. A trial tester will prove its value.

PRICE $25.50 Plus Tax Including case
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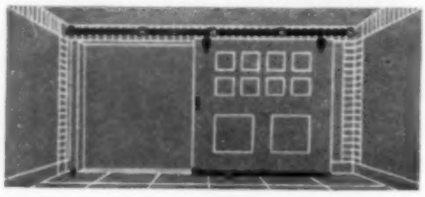
A-H COMPANY, INC.
225 E. Grand River, Brighton, Mich.

BREVITY—identify by IEN - 2652 if you write the maker

COBURN

SLIDING DOOR HARDWARE



- . . . LOW INSTALLATION COST
- . . . SMOOTH, EASY OPERATION
- . . . LONG, TROUBLE-FREE LIFE
- . . . ADAPTABLE FOR BOTH NEW AND REMODELING JOBS

Sliding door hardware for industrial applications of all types: Straight-sliding, sliding-folding, around-the-corner, roundhouse and fire doors.

For additional information write to Sales & Engineering, 56 Sterling St., Clinton, Mass. or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Clinton, Massachusetts

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

BREVITY—identify by IEN - 2653 if you write the maker

The handiest pair of legs in the world!

Atlas STEEL

FOLDING LEGS

Make your own tables and platforms, quickly, easily, inexpensively!

Now . . . temporary or permanent tables and platforms as you need them . . . for every office and factory use! Sturdy one-inch steel tubing, electrically-welded. Easily bolted to plywood, masonite, wood, etc. Support 1500 lbs. Legs fold easily for storage—lock into position when opened. Bolts, simple instructions included. Buy direct at low mail-order prices.

$8.95 set — 12 or more sets, 10% discount; 25 or more sets, 20% discount

Specify height desired — 26", 30", 34"
Sold under money-back guarantee
Shipped pre-paid when check accompanies order

Institutional Sales Co.
4932-A Portico St., Philo 44, Pa.

BREVITY—identify by IEN - 2654 if you write the maker

industrial OIL AND GAS BURNING EQUIPMENT

- Mechanical Atomizing Oil Burners
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- Industrial Gas Burners
- Low Air Pressure Oil Burners
- Fuel Oil Pump Sets
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Detailed information gladly sent you upon request.

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1821 EAST SEDGLEY AVENUE, PHILADELPHIA 34, PA.
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BREVITY—identify by IEN - 2655 if you write the maker

Detonators for explosives are made by winding a special Riegel paper around a mandrel and filling the tubes thus formed with detonating powder. This paper, called "Red Detonator," combines high strength, weather resistance and easy formability with many other properties.

Red Detonator is but one of hundreds of Riegel tailor-made papers. Some of these are familiar to almost everyone ... others are so new that their technical properties are known to but a few. Just tell us what you want paper to do for you.

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• TAILOR-MADE PAPERS FOR INDUSTRIAL USE •

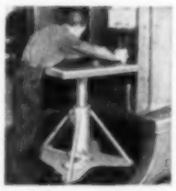
BREVITY—identify by IEN - 2656 if you write the maker

WHICH DO YOU DO?

PORTABLE *Hydraulic* ELEVATING TABLE

FITS ALL FOUR!

No table has so many practical uses as this RAYMOND Portable Hydraulic Elevating Table! Use it for positioning or handling throughout the plant . . . see how it lightens your work load. RAYMOND Hydraulic Elevating Table has sturdy 30" square top which can be rotated when desired.



Convenient foot pump simplifies raising and lowering, leaves operator's hands free. Smooth-rolling casters make table highly portable. Floor lock holds it securely in place. Standard Model elevates from 28" to 44"; Telescopic Model from 28" to 50". Both models have 2,000 lb. capacity.

SEND FOR BULLETIN 232

. . . it gives you the facts on this RAYMOND Portable Hydraulic Elevating Table. Write for it today.

RAYMOND

ELECTRIC INDUSTRIAL TRUCKS • HYDRAULIC ELEVATING EQUIPMENT

The RAYMOND CORPORATION
Formerly LYON-Raymond Corporation
3569 Madison St., Greene, N.Y.

BREVITY—identify by IEN - 2658 if you write the maker

STORING . . Sectional wood shelving for erection, alteration as required

Source: STORESKEEPING SPECIALTY SUPPLY CORP.
509 Willis Ave., Dept. N, New York 55, N. Y.

No tools required

Standard sections consisting of uprights, steel-reinforced shelves, support pins and an angle brace make up the basic element in a line of wood shelving, new in the United States. The uprights, 84 in. in height, are drilled every two inches to take the shelf-supporting pins. The shelves are fitted with iron angles at their two ends to ride on the pins for load capacity to 700 lb. per shelf. The angle brace applies at the rear with screws that are part of each basic unit.

Depth is 12, 18 or 24 inches. Width is 24, 30 or 36 in. in the 12 in. depth. It is 30 or 36 in. for the other two. List price for a 12 by 24 by 84-in. assembly including 5 shelves is about $23. Each additional unit in this same size is about $19.

BREVITY—identify by IEN - 2659 if you write the maker

WATERPROOFING . . Clear liquid contains silicone, for masonry walls

Source: RANETITE MFG. CO.
1915-19 S. Broadway, St. Louis 4, Mo.

Single gallon lists at $5.50

Application is by spraying or brushing for the company's new No. 11 silicone-base water-repellent liquid. It has been developed for exterior surfaces of masonry standing above grade. It causes no change in the masonry. It penetrates into the pores but does not prevent "breathing." Packaging is in 1, 5 and 55-gal. containers.

BREVITY—identify by IEN - 2660 if you write the maker

SEALING . . Packing gland, stainless steel, 1/8 to 3/8 in. bore

Source: CONAX CORP.
4513-17 Main St., Buffalo 21, N. Y.

Ask for Bulletin 951

Type PG-2 and PG-4 are new packing glands made of Type-303 stainless steel and supplied with asbestos-graphite packing. Applications include use in equipment as small stuffing boxes or to seal static lines, thermocouple wells, dial-type thermometer stems, movable tubes.

Type PG-3 replaces the asbestos-graphite packing with powdered talc as a sealing medium to provide a chemically-inert unit suited for use at temperatures above 1,400 deg. F. This unit cannot be used for a moving tube or rod. It does seal against pressure or vacuum for stationary application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2661 if you write the maker

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability.

Superior Steam Generators are manufactured in 19 sizes from 25 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 317

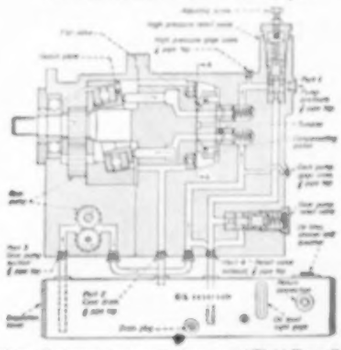
SUPERIOR COMBUSTION INDUSTRIES, Inc.
Factory: Emsworth, Pa.
Sales Offices: Times Bldg., Times Sq., New York N. Y.

SUPERIOR STEAM GENERATORS

BREVITY—identify by IEN - 2662 if you write the maker

HEAVY DUTY HYDRAULIC POWER PUMPS

Pressures to 3000 & 5000 psi



The Oilgear Company announces three new "Fluid Power" heavy-duty constant delivery axial piston pumps. Similar components have been tested and proven in more than 100,000 installations without a single failure on record. Features of these fluid power generators are: patented balanced small flat valves with controlled oil film between working surfaces; patented small one piece rolling pistons; patented quiet reverse flow relief valves; 100% supercharge that minimizes oil compression, prevents air entry and assures quieter operation. These units in pressures up to 3000 and 5000 psi are especially suited to heavy duty pushing, pulling, lifting, lowering and maintaining high static loads on large clamping rams; for use in the iron, steel, metal working, plastic, automotive, rubber, printing, lumber and textile industries. For illustrated descriptive and application data, write for Bulletin 46601. THE OILGEAR COMPANY, Dept. A, 1567 West Pierce Street, Milwaukee 4, Wisconsin.

BREVITY—identify by IEN - 2663 if you write the maker

WRENN PAPER COMPANY

SELECTS B&S **SHEAR-CUT SLITTER-REWINDER**

The Wrenn Paper Company, widely recognized for its high quality products, was faced with the problem of slitting a hard-to-handle material. Clean, square edges and uniformly wound rolls were of utmost importance.

After considering several machines, the Bagley & Sewall #15 Shear-Cut Slitter-Rewinder was selected.

B & S Slitters and Rewinders are doing outstanding jobs in mills and converting plants all over the country. Their many unique money-saving advantages make them the first choice of the industry. Before you buy, *compare*...and your choice, too, will be B & S Slitting and Rewinding equipment.

For full details write to The Bagley & Sewall Company, 500 Fifth Avenue, New York 18, N. Y.

Inserts show Shear-Cut Slitter Units

BAGLEY & SEWALL
WATERTOWN, NEW YORK

designers and builders of

QUALITY MACHINERY SINCE 1858

500 FIFTH AVE., NEW YORK 18, N. Y.

Foreign Representative: CASTLE & OVERTON, INC., 630 Fifth Avenue, New York 20, N. Y.

BREVITY—identify by IEN - 2665 if you write the maker

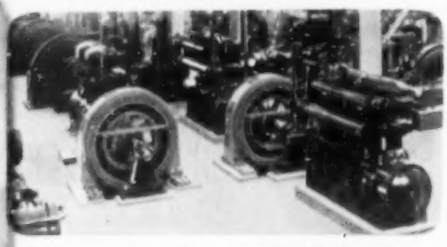
GREENLEE HAND BENDERS...for making small-radius bends in pipe, tubing, conduit.

Quickly make smooth, accurate bends without flattening or kinking. Ideal for conduit installations or fitting pipe and tubing on machines . . . especially designed to form neat bends for sharp corners and nooks. Various models and sizes for steel, copper, brass and aluminum tubing or pipe, rigid or thin-wall conduit.

Free Folder and Booklet on the Greenlee Bender line. Write Greenlee Tool Co. 1865 Herbert Avenue, Rockford, Illinois.

GREENLEE

BREVITY—identify by IEN - 2666 if you write the maker



Celanese Corp. Uses 6420 Horsepower of Frick Refrigeration

Fourteen Frick refrigerating machines are in operation at the Amcelle plant of Celanese Corporation of America, near Cumberland, Md., makers of chemical yarns. Most of these ammonia compressors have been in use since 1929. The motors driving the new vertical machines, shown in the foreground, are each of 1250 hp.

This is a large-scale example of the dependability and economy of Frick ammonia refrigeration. Power requirements, when operating in summer weather on air conditioning loads, are only 0.70 hp. per ton of refrigeration.

DEPENDABLE REFRIGERATION SINCE 1881
FRICK CO.
WAYNESBORO, PENNA. U.S.A.
Also Builders of Power Farming and Sawmill Machinery

BREVITY—identify by IEN - 2667 if you write the maker

NEW!

ELECTRIC BRAKE & CLUTCH CALCULATOR

● Here's a real tool for design engineers. This new Warner calculator conserves valuable time otherwise spent paging through catalogs and reference books. It provides all specifications necessary to select *electric brake and clutch* in "jig time" . . . including sizes and dimensions . . . starting and stopping time . . . formulas and curves for torque and heat calculations, etc. Send for your free copy today. For help on starting and stopping problems, phone your nearby Warner Electric Brake and Clutch Engineer.

WARNER
WARNER ELECTRIC BRAKE & CLUTCH CO.
BELOIT, WISCONSIN, U. S. A.

For Your Special Information

ALL MAKERS ARE LISTED IEN S-5

The 1952 Edition of Thomas' Register is now going into the mail. It is filling orders received as long as a year ago when the 1951 Edition was completely allocated. Right now we understand a few copies are still available. We suggest you place your order quickly.

At the same time life in service for any edition is about three years, one department supplying the books to another as their new ones come in. Perhaps you will want to check with your own purchasing department and get its 1951 Edition for your use during this year.

EQUIPMENT EXPOSITION IEN S-6

Perhaps we will see you next month in Chicago where the 1952 ASTE Industrial Exposition will be open on March 17 to 21. We will be there looking for "what's new" among the exhibitors. We will be there also to see first-hand an imposing collection of equipment, tools and manufacturing facilities on view by some 350 manufacturers. An idea of the spread of subjects can be had from the "day assignments" of the technical sessions. They cover inspection and quality control, metal cutting, materials forming, grinding and finishing, machine accessories, drives. It will pay you to attend.

PROGRESS FOR PEOPLE IEN S-7

National Business Publications Inc. has started, through its member publications, an advertising campaign reporting on "progress-for-people" by reason of the competitive system. First insertion illustrates the 1,252 pounds of steel per person produced in 1950 under the U. S. competitive system by 253 steel companies compared to the 97 pounds of steel per person for the rest of the world combined.

U. S. SAVING BONDS IEN S-8

Employee participation in U. S. Savings Bonds has grown from 700,000 in 1941 to 27,000,000 at the present time. Companies with the Payroll Savings Plan in action now total 175,000. Workers under the Plan total 6,200,000. "Congratulations to the executives of industry!" says John W. Snyder.

BREVITY—identify by IEN - 2668 if you write the maker

Do you have this valuable handbook?

This revised edition of the "Accurate Handbook of Technical Data on Springs" offers 40 pages of clear, concise data on such subjects as design formulation, load deflection and the proper methods of specifying springs. Also presented are several helpful short cuts for making spring calculations. Engineers and designers will find the handbook invaluable. Write for your free copy today!

ACCURATE SPRING MFG. CO.
3807 W. Lake Street Chicago 24, Illinois

Accurate Springs

BREVITY—identify by IEN - 2669 if you write the maker

TYPE 86—With single or double port, reversed type-trim, single or double diaphragm, etc. Pressure ranges from 125 to 5000 psi; size range from ½" to 4" single port; ½" to 10" double port.

Famed for its versatility, preferred for its accuracy, there is a BS&B Type 86 Diaphragm Control Valve for your process. Whether your medium is gas, liquids, vapor, steam or air, you can depend on good control with this valve. It features wide range, high lift, true-aligned reversible inner valves; precision construction that minimizes hysteresis, chattering or shock. It can be installed in any position.

Write for Your BS&B Climax Catalog complete with charts and specifications. BS&B Climax Service available in 76 U. S. and Canadian cities.

BS&B
BLACK, SIVALLS & BRYSON, INC.
CLIMAX CONTROLS DIV. DEPT. 4-L3
7500 E. 12TH STREET KANSAS CITY 3, MO.

BREVITY—identify by IEN - 2670 if you write the maker

cut maintenance COSTS...

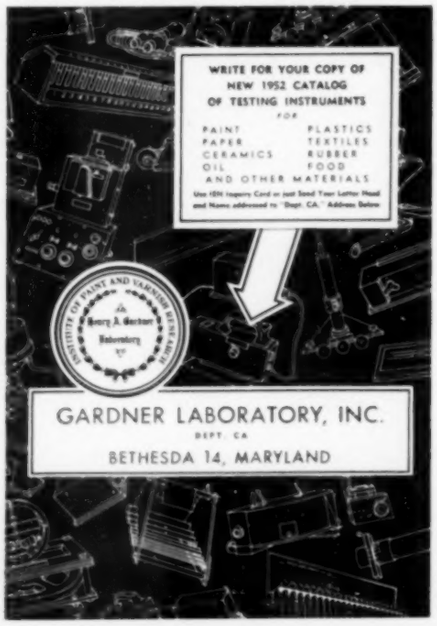
THE BEST PRODUCT IS THE CHEAPEST

WHY? Because the quality product does the job with less labor. It has been proved that inferior materials are really most expensive because they require extra hours and added supervision for correct use. Reduce labor costs, save the cost of "re-doing" . . . by using only high quality maintenance products like Seal-O-San Finish, Korex Cleaner, and Anti-Slip Cosmolite Wax, made by Huntington. Let us show you how much you can save.

FREE
Write today for free booklet!

Huntington
LABORATORIES, INC.
Huntington, Indiana • Toronto, Canada

BREVITY—identify by IEN - 2671 if you write the maker



BREVITY—Identify by IEN - 2672 if you write the maker

16 MECHANICAL FUNCTIONS OF FELT

- SEALING
- WICKING
- WIPING
- POLISHING
- VIBRATION CONTROL
- FILTRATION
- SOUND ABSORPTION
- THERMAL INSULATION
- SHOCK ABSORPTION
- CUSHIONING
- MOISTENING
- PADDING
- PACKAGING
- SURFACING
- FRICTIONAL
- PERCUSSION

These are but a few of the important mechanical functions fulfilled by Felt. Advanced fibre technology and research in American Felt Company Laboratories has led to many new applications where special properties and accurate specification control were needed. An experienced engineering and development staff is ready to assist you by furnishing full technical data or by selecting or designing felt parts for your own special use. Write for "The Story of Felt."

American Felt Company

38 GLENVILLE ROAD, GLENVILLE, CONN.

BREVITY—Identify by IEN - 2673 if you write the maker

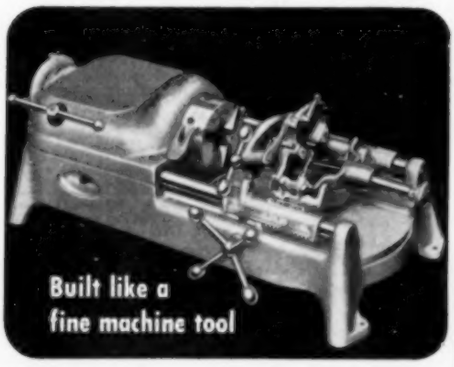
Announcing

THE GREAT NEW

"500"

RIDGID

PIPE & BOLT THREADING MACHINE



Full of typical RIDGID improvements

- Range ¼" to 2" pipe; ¼" to 2" bolts.
- Cutting, threading and reaming tools operate independently and right up to chuck, swing up out of way when not in use.
- New RIDGID quick-opening quadritype, dualtype and monotype die heads save time and work.
- Concealed oil system, reversible pump, no priming.
- More than 20 other efficiency improvements—see this remarkable new RIDGID "500" at your Supply House!

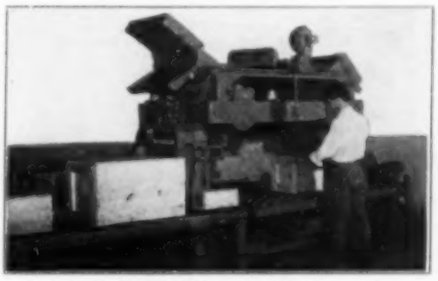
THE RIDGE TOOL CO. • ELYRIA, OHIO

RIDGID Work-Saver Pipe Tools

BREVITY—Identify by IEN - 2675 if you write the maker

PACKAGING . . Nailing machine for box lids, adjusts itself to size

Source: FOOD MACHINERY & CHEMICAL CORP. 3073-77 12th St., Riverside, Calif.



400 to 600 boxes per minute

One operator at this new automatic box-lid nailing machine receives boxes of mixed sizes from a conveyor and moves them into the machine over a live-roll table. He depresses a foot-operated control to bring the nail chucks down into place where they adjust themselves to the size of the box and drive the required number of nails. The lidded box is discharged through rear of the machine to a take-away conveyor.

A by-pass lever can be operated to permit boxes or cartons to pass through that do not require lidding without interrupting the production flow. Size range is 6 by 6 by 15 in. to 18 by 24 by 50 in. in box dimensions.

BREVITY—Identify by IEN - 2676 if you write the maker

JIG BORING . . Precision machines with optical screens to assist setup

Source: AMERICAN SIP CORP. 100 E. 42nd St., Room 1014, New York 17, N. Y.

Made in Switzerland

Optical screens illuminated by green light have been added on the company's line of jig-boring machines to take the place of microscope eyepieces. The screens present a field with a movable reticle in the form of a pair of fingers. These fingers are positioned across the screen by rotating the micrometer drum to bring them on the two sides of an optically-projected centering line. Accuracy is to 0.0001 inch. Rough settings are made mechanically as in the initial design on external scales marked off in 0.1-in. divisions.

Two table sizes in the line measure 43 by 33 in. and 61 by 40 inches. Maximum height, table to spindle, is about 35 and 39 inches. A third machine adds a side head to the largest of the two units. Hydroptic is the trade name.

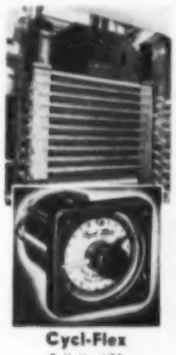
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2677 if you write the maker

BREVITY—Identify by IEN - 2678 if you write the maker

AIDED BY

EAGLE timing



The Rock Island Millwork Co. of R. I., Ill. are now converting huge piles of waste sawdust into large sheets of "RESINWOOD," used in place of other hardboards for unlimited items such as door panels, cores, and the finest furniture.

Eagle "Cycl-Flex" timers automatically operate a huge three-story press, repeating many properly timed delays for increased production and the highest quality product.

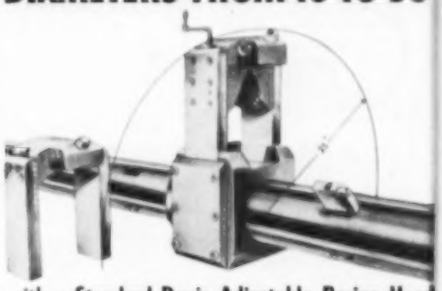
Cycl-Flex
Bulletin 120

AN EAGLE TIMER FOR EVERY TIMING PROBLEM!

EAGLE SIGNAL Industrial Timers
EAGLE SIGNAL CORPORATION MOLINE, ILL.

BREVITY—Identify by IEN - 2679 if you write the maker

NOW ACCURATELY BORE DIAMETERS FROM 10" TO 50"



with a Standard Davis Adjustable Boring Head

You don't have to buy custom-made heads for your large-diameter boring jobs more. Standard Davis Extension Heads — micrometer adjustable for any bore from 10" to 50"—take care of those large miscellaneous jobs on horizontal boring machines.

Super micrometer construction assures positive accuracy . . . allows you to make accurate adjustments on several cuts taken on the same bore.

Here you have the finest accuracy possible in extension boring heads — now available as a standard item with your nearest Davis representative. Call him — or write us direct for full information on this versatile attachment.

Davis Stub Boring Tools Speed Up Boring Operations—Available in sets consisting of precision-made stub boring bars that are accurate to .0001" fine adjustment. Range from 1/2" to 7" diameter.

DAVIS BORING TOOL DIVISION
GIDDINGS & LEWIS MACHINE TOOL COMPANY • Fond du Lac, Wis.

Manufacturers of: Table, Floor and Planer Type Horizontal Boring, Drilling and Milling Machines • Vertical Boring and Turning Mills • Double Housing and Open Side Planers and Planer Type Milling Machines • Complete Tooling Service

BREVITY—Identify by IEN - 2680 if you write the maker

NO MENTAL HAZARD with the P&W KELLERFLEX CARBIDE

DI-BUR
TRADE MARK

FORGET SLIVERS! DI-BUR eliminates sliver condition by removing steel in small granules, kind to operators' hands.

FORGET BREAKAGE AT BRAZE! Special brazing application places "shock absorber" between Carbide and steel Shank.

FORGET HIGH SPEEDS! DI-BURS run at half the speeds usually recommended for carbide burs.

FORGET LACK OF CONTROL! DI-BUR stays where you want it instead of walking away from work.

FORGET FATIGUE! DI-BURS are so easy to control, operators work as well at end of day as at the beginning.

Order from stock direct from P&W Branch Office near you. Birmingham* • Boston Chicago • Cincinnati Cleveland • Dallas (The Stance Co.) • Detroit Houston (The Stance Co.) Los Angeles • New York Philadelphia • Pittsburgh Rochester • St. Louis San Francisco. Also from Factory Stock at West Hartford, Conn.
*Office only.

PRATT & WHITNEY
Division NILES-BEMENT-POND COMPANY
WEST HARTFORD 1, CONNECTICUT, U.S.A.
Dedicated to Accuracy for 91 years

BREVITY—identify by IEN-2681 if you write the maker

Economy Packages

FAFNIR PILLOW BLOCKS

The great variety of types and sizes of Fafnir Ball Bearing Power Transmission Units makes possible precise selection to meet exact specifications. Units feature the Fafnir Wide Inner Ring Ball Bearing with Self-Locking Collar . . . easiest of all to install . . . replaceable if necessary.

In Pillow Blocks, Fafnir offers single and double bearing types. Single bearing types available in light, standard, and heavy series . . . self-aligning or fixed and floating. For complete details call your Fafnir distributor or write The Fafnir Bearing Company, New Britain, Conn.

FAFNIR BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

BREVITY—identify by IEN-2682 if you write the maker

SALIENT FEATURES OF HAR-BAR BARRIERS

1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins. 100% reusable.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire — no shock.
14. Castings are non rusting aluminum alloy.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER, INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 - INDIANA

BREVITY—identify by IEN-2683 if you write the maker

PROTECT YOUR PRODUCTS DURING SHIPMENT with

S-S-White PLASTIC DUMMY SHIPPING PLUGS AND CAPS

Made of tough, non-brittle plastic. Available from stock molds in a wide range of sizes. Details in BULLETIN P-4601. Copy mailed on request.

CONTRACT MOLDING *in all standard thermoplastic and thermosetting materials.*

THE S-S-White PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP, 10 East 40th St. NEW YORK 16, N. Y.
WESTERN DISTRICT OFFICE: Times Building, Long Beach, Calif.

BREVITY—identify by IEN-2684 if you write the maker

SIGNALING . . Sight flow indicator mounts observation windows in a pipe

Source: TRINITY EQUIPMENT CORP.
470-74 Westfield Ave. E., Roselle Park, N. J.

Operator looks through

Trin-Vue is a new sight-flow indicator for assembly in a pipe line. It positions two windows, Pyrex, Herculite, or quartz, in a fitting made of stainless steel, Monel Metal, nickel, Hastelloy or rubber-lined steel so an operator can observe flow through the line. The windows are sealed and held in position by O-ring gaskets and Truarc retaining rings.

Seven sizes are included for pipe ranging from ½ to 4 inches. Overall dimensions range from 5½ to 11¾ in. in length with diameter over the window frame at 2⅝ to 7 inches. The smallest unit with Pyrex windows rates 350 lb. pressure. The largest 4-in. size rates 50 pounds. The flanges are loose for rotation to match the hole layout in mating flanges in the pipe line.

BREVITY—identify by IEN-2685 if you write the maker

LATHE TOOL . . Carbide bit holder for lathes operated with tracer control

Source: WESSON CO.
1218-22 Woodward Heights Blvd., Ferndale 20, Mich.

To fit your lathe

Type DTRL is No. 10 in the company's Multicut Series of carbide tool holders. It is designed to provide clearance on both sides of the bit to permit cutting in either direction. It employs the company's band-type clamping device and Wesson metal carbide insert. This insert can be turned end for end to provide a total of four cutting edges. Also the insert can be locked in position right side up or up side down to operate on either side of the work.

BREVITY—identify by IEN-2686 if you write the maker

PLASTIC MOLDING . . Basic principles described in book on equipment, methods, and plant facilities

John Wiley & Sons
440 Fourth Ave., New York 16, N. Y.

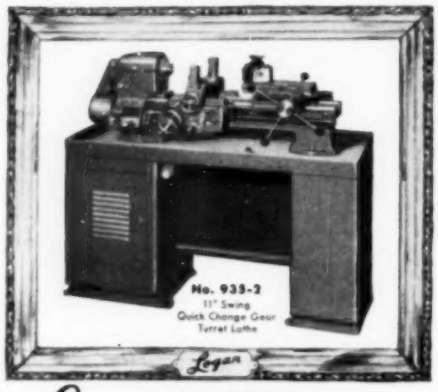
Engineering viewpoint is employed in new 500-page book, "Plastics Molding," written by John Delmonte, President of Furane Plastics, Inc. List price is $9. The book deals with compression, transfer, injection molding, extrusion, finishing of plastic products. It also goes into detail on supporting facilities such as hydraulic pumps, mechanical pressure systems, accumulators, valves, distribution of gases and fluids, heat for molding, instrumentation, plant layout.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN-2687 if you write the maker

BALL BUSHING

BREVITY—identify by IEN-2688 if you write the maker



Logan LATHES Put Profit in Production

With its 11" swing, 1" collet capacity, and 1-3/8" spindle hole, today's Logan Lathe handles **more** production work, **more profitably** than ever before. Easy to set up. Ball bearing mounted Logan spindle has the sustained accuracy at high speeds to hold precision tolerances. Accurate, durable Logan construction keeps production going at top efficiency, at minimum cost per finished part.

WRITE FOR CATALOG — FULL DETAILS ON SCREW CUTTING AND TURRET LATHES AND SHAPERS

LOGAN ENGINEERING CO.
4901 West Lawrence Avenue, Chicago, 30, Illinois

BREVITY—identify by IEN-2689 if you write the maker

With Visible Contact Overload Relays

R-B-M Size 0 and 1 A.C. Magnetic Starters have identical overall panel mounting dimensions. All parts, except stationary and movable contact assemblies, are common to both sizes.

Hsco solderless lugs, suitable for #6 maximum wire size, are standard. Screw terminals are available on special order. Magnet coil can be removed without disassembling starter. Stationary and movable contacts replaceable without disconnecting wiring. Enclosed heater element, expanding U-shaped bi-metal and snap action contact mechanism provide dependable, accurate motor overload protection.

Small overall size, plus identical mounting dimensions for 10 and 15 ampere 2 to 5 pole contactors, as well as Size 0 and 1 non-reversing starters, make the R-B-M line extremely flexible for control panel layout.

Heater element cannot be assembled to starter incorrectly.

Bi-metallic thermal overload relay assembly replaceable without removing starter from enclosure. Designed for separate mounting without sub-panel assembly.

TRIP-FREE Manual reset is standard. Manual-Automatic Reset available on special order at no extra charge.

Two 5 pole contactors mechanically interlocked with overload protection on common base. Unwired. Note interchangeability of 25 ampere normally open contacts and 15 ampere convertible N.O. or N.C. interlocks.

Address Dept. L-3

R-B-M DIVISION ESSEX WIRE CORP.
Logansport, Indiana
MANUAL AND MAGNETIC ELECTRIC CONTROLS —FOR AUTOMOTIVE, INDUSTRIAL, COMMUNICATION AND ELECTRONIC USE

BREVITY—Identify by IEN - 2691 if you write the maker

Lower

PRODUCTION COSTS WITH *KRAUS* AUTOMATIC HOPPERS

Typical Tumble Hopper

USE THEM FOR...

1. Machining
2. Assembling
3. Packaging
4. Sorting

VERSATILITY. Basic hoppers can be tooled for a wide variety of pieces.

LARGE CAPACITY. Up to 2.4 cu. ft. on 32" tumble type. Eliminates frequent reloading and saves labor.

Send samples with delivery rate and orientation requirements to:

KRAUS DESIGN INC.
948 EXCHANGE ST. • ROCHESTER 8, N. Y.

BREVITY—Identify by IEN - 2692 if you write the maker

LOW COST PROTECTION FOR MAN AND MACHINE

ELASTICONE®

GUIDE PIN COVERS

JUST SNAP INTO PLACE

NO TOOLS REQUIRED

NO INSTALLATION COSTS

Elasticones are manufactured in stock sizes. Specify O.D. of bushing and full open height of set when ordering.

Protects Pins and Bushings from nicks, scratches . . . prevents injuries to Die Setters & Operators. Write for full information.

CENTRAL SAFETY EQUIPMENT COMPANY
2200 E. HUNTINGDON STREET, PHILADELPHIA 25, PA.

BREVITY—Identify by IEN - 2693 if you write the maker

For BALL and PEBBLE Milling

Amazing Grinding Medium

BURUNDUM

- made of "ultra-high" fired ceramic
- tubular shaped for greater grinding area
- extra high specific gravity for faster action
- extremely hard for positive attrition
- long wearing for minimum contamination
- non-porous for easy cleaning
- for use in both wet and dry grinding
- 50% faster grinding than conventional media

Write, today, for bulletin and samples!

302C

U. S. STONEWARE
AKRON 9, OHIO • PROCESS EQUIPMENT DIVISION

BREVITY—Identify by IEN - 2694 if you write the maker

WELDING . . Gas shielded arc torch and drive to feed metal filler wire

Source: LINDE AIR PRODUCTS CO.
30 E. 42nd St., Room 308, New York 17, N. Y.

For steel to ⅛ inch

Semi-automatic action is provided by right-angle assembly of filler-wire feed and the tungsten electrode holder in this new Heliarc Type HWM-1 welder. It is capable of making uniformly strong welds at speeds to 100 ipm. after the operator has struck an arc and pulled a trigger to start the filler feed. From that point on he simply steers the moving torch over the line of the weld. The wire serves both as the weld metal and as the propelling force to move the torch forward.

The assembly includes the welder head, leads to an arc welding machine and the motor-equipped filler-wire reel which feeds through a flexible conduit to the torch.

BREVITY—Identify by IEN - 2695 if you write the maker

TUBE . . Flexible plastic is tasteless, non-toxic and odorless

Source: HUDSON INDUSTRIES INC.
4402 St. Aubin Ave., Detroit 7, Mich.

For foods, beverages

Flexlite trade names a new plastic tube available in ¼ and ⅜-in. inside diameter. It remains flexible in service, will not harden with age, dry out, become brittle or crack. Moisture absorption is zero. Tensile strength is 600 lb. per square inch at 70 deg. F. It increases when the temperature decreases. Melting point is 250 deg. F.

Fittings include a tube insert with fluted shank and a stainless-steel spring clip that applies over the connected ends. Various other threaded fittings are available in brass and stainless steel. A T-connector with fluted shanks is included.

BREVITY—Identify by IEN - 2696 if you write the maker

TESTING . . Battery powered unit checks circuit continuity, pocket size

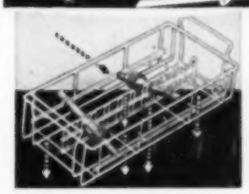
Source: IDEAL INDUSTRIES INC.
1108 Park Ave., Sycamore, Ill.

Continuity Tester is a new instrument equipped with miniature dry cells and at one end with a 4-ft. lead cord terminating in a spring clip. At the opposite end is a signal light to illuminate the point of contact when application is made to close a circuit. The lead can be detached when the tester is not in service so there is no danger of exhausting the batteries.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2697 if you write the maker

"Carryers"



PERMIT QUICK, COMPLETE DRAINAGE WHEN PARTS ARE WASHED OR DEGREASED

. . without removal from the 'Carryer'

★ Note open structure of "Carryer" as indicated by arrows.

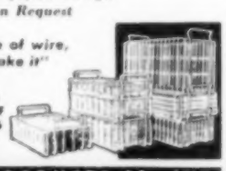
• Supporting structure is designed by Mid-West specialists for the specific part so as to hold and suspend it with minimum surface contact. Protection of critical surfaces cuts repair costs . . . man-hours are saved because it is NOT necessary to remove parts from "Carryer" for most efficient washing and degreasing . . . personnel becomes available for other operations with substantial payroll savings.

Circular on Request

PIONEERS SINCE 1927 . . . IN WIRE CARRIERS AND MISC. TOTE BIN BASKETS

"If it's made of wire, we can make it"

SPECIALISTS IN MEANS OF SUSPENDING MACHINED PARTS



MID-WEST WIRE PRODUCTS CO., INC.
JERRY GERALDS, President
FENKELL AT LINWOOD • DETROIT 21, MICH.

BREVITY—Identify by IEN - 2698 if you write the maker

THEY'VE GOT WHAT IT TAKES TO HANDLE ANY JOB AND KEEP A TIGHT GRIP ON RISING COSTS!

ILLINOIS GLOVES

ARE BUILT TO LAST

Illinois Gloves are made to stand up under the hardest wear . . . they're thoroughly tested for abrasion and tensile strength when in contact with oil, acids, heat or water. And because Illinois Gloves give you longer, better service, they're your most economical buy in the long run!

Write Industrial Division Illinois Glove Company for catalog & prices

ILLINOIS GLOVE CO., CHAMPAIGN, ILL.

BREVITY—Identify by IEN - 2699 if you write the maker

New! Industrial Tissues

Automatic serve-up packages

For Wiping and Polishing

Wiping precision instruments

Let clean, *disposable* KIMWIPES* industrial wiping tissues standardize—and economize—your cleaning operation. Soft, yet strong, they're ideal for cleaning precision tools and instruments. Recommended for use on finely finished surfaces. And highly absorbent KIMWIPES remove dust, dirt, grease and oil—quickly, safely.

The Bureau of Federal Supply stocks Kimwipes size 15" x 19" in all Supply Centers under stock item #53P33121-800.

Polishing machined parts

Kimwipes
INDUSTRIAL WIPING TISSUES

A product of Kimberly-Clark

*T. M. REG. U. S. PAT. OFF. & CAN.

KIMBERLY-CLARK CORPORATION, *IEN 352*
Neenah, Wisconsin
Please send me Kimwipes literature.

Name .....

Firm Name .....

Address .....

City ..... *Zone* ..... *State* .....

BREVITY—identify by IEN-2701 if you write the maker

New Flexible Sealing T-J AIR CYLINDER

Designed with revolutionary application of Super-Cushion

It's *sealed with pressure*—insures positive cushion action combined with automatic valving action for fast return stroke . . . eliminates binding and sticking . . . operates with *low friction, minimum wear,* and *added power* due to higher efficiency. Many more plus features! Wide range of styles and capacities. Write for bulletin 252. The Tomkins-Johnson Co., Jackson, Mich.

30 YEARS' EXPERIENCE

TOMKINS-JOHNSON

BREVITY—identify by IEN-2702 if you write the maker

EXPLOSION-PROOF

Electrically-Controlled AIR VALVE

Meets fully Group D, Class 1, National Electric Code Standards of National Association of Fire Underwriters, for wiring in hazardous locations.

The Bellows Explosion-proof Electroaire Valve is a complete packaged unit; 4-way directional slide valve, independent speed controls, low voltage solenoid controls. Three port sizes: ¼", ⅜", ½". Can be arranged for direct connection to or remote control of any air cylinder of suitable capacity. Write for Bulletin AVX-310. Address Dept. IEN 352.

"Controlled-Air-Power for Faster, Safer, Better Production"

The Bellows Co.
AKRON 9, OHIO

BREVITY—identify by IEN-2703 if you write the maker

THE EASY WAY TO TELL!

Changeable Letter Bulletin Board. The message you want—when you want it!

DAV-SON INDUSTRIAL BULLETIN BOARDS

Employee bulletins, safety messages, production records all get maximum attention when you use DAV-SON Bulletin Boards. There is a DAV-SON Bulletin Board for every purpose.

- Changeable Letter Boards
- Cork Back Pin-Up Boards
- Indoor and Outdoor Types
- Metal or Hardwood Frames
- With or Without Locking Glass Doors
- Illuminated and Non-Illuminated
- Special Safety Displays
- Single and Multiple Panels

Cork Back Boards. For letters, photos, posters, etc.

Write for complete information regarding your requirements.

A. C. DAVENPORT & SON, INC.
ESTABLISHED 1922
311 N. DESPLAINES ST., CHICAGO 6, ILL.
MANUFACTURERS OF BULLETIN BOARDS FOR EVERY NEED

BREVITY—identify by IEN-2704 if you write the maker

DRIVE . . Variable speed transmission, multiple cams and one-way clutches

Source: REVCO INC.
4 E. Franklin Ave., Minneapolis 3, Minn.

No gears or belts

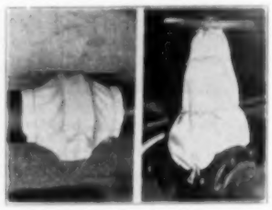
Model 142XR is a new design in the company's line of variable-speed reversing drives, previously described IEN-6863-51. The new unit is rated at ¼ hp. on 350 rpm. output and 1,725 rpm. input. Load rating is 20 inch pounds. Output is infinitely variable from 0 to ¼ of the input speed in either direction. Housing dimensions are 6 by 3½ by 5¼ inches. Weight is 6 pounds.

Operation is the same as in the original unit, previously described IEN-3-50, in which multiple cams mounted on the input shaft operate rocker arms in connection with multiple one-way clutches on the output shaft. Action of the cams is transmitted through the clutches to the output shaft to move it in small continuous increments in either forward or reverse direction depending upon setting of direction-control lever.

BREVITY—identify by IEN-2705 if you write the maker

PROTECTING . . Valve covers to enclose operating mechanisms

Source: MINE SAFETY APPLIANCES CO.
21 Braddock Ave., Pittsburgh 8, Pa.



Sizes 1 to 6 inches

ChemKover trade names a new line of protecting valve covers made of Dynel fabric. The material is resistant to acids and caustics and has sufficient strength to contain sprays resulting from gasket or packing failure. Thus the cover serves as protection for workers near a valve as well as to protect the operating parts of the valve itself. The fabric will not support combustion and can be cleaned. The cover is available to fit any size and style of valve or pipe-line flange within a considerable range.

BREVITY—identify by IEN-2706 if you write the maker

GRINDING . . Operator's instruction manual on cylindrical grinding machine and its applications

Landis Tool Co.
26 E. Sixth St., Waynesboro, Pa.

Basic information given in new Third Edition of "Better Grinding" applies to the company's and other makes of precision cylindrical grinding machines. The 84-page leatherette-covered book is available on request to assist in training new operators. Drawings and concise text tell how to set up work on a machine, how to operate and maintain it, together with suggestions on grinding-wheel selection, operating hints. There is a set of condensed specifications on company's machines.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN-2707 if you write the maker

How to Save Time and Money On Hog Ring Fastening

Use this improved self-feeding Bostitch P7 Hog Ring Plier to:

- ✓ fasten fabric to wire frames
- ✓ join loose wires into neat assemblies
- ✓ bind ends of ropes, cords, wires
- ✓ seal twisted necks of plastic bags

Bostitch P7 hog-ring-type staplers are stronger, more powerful than ever. One-hand operation easily forms sturdy staples into "hog rings." Staples have ½" openings . . . can be compressed to rings with a ¼" diameter. Rings resist about a 20-pound pull without opening. Bostitch P7 stapling pliers are first choice of automobile seat cover installers, mattress makers. You'll find them quicker and easier than tying, winding, wrapping, wiring, taping. Write for PTG232 data sheet for more details on this time-saving, cost-cutting method. BOSTITCH, 456 Mechanic St., Westerly, R. I.

BOSTITCH fastens it better, AND FASTER, with wire
ALL TYPES OF MACHINES FOR APPLYING STAPLES
ALL TYPES OF STAPLES APPLIED BY MACHINES

BREVITY—identify by IEN-2708 if you write the maker

engineering research keeps NATIONAL FIRST in laminated plastics

Stiegler's Fungus House

Frederick L. Stiegler, National research engineer, directed the pioneering work that came up with a fungus-resistant vulcanized fibre, satisfactory for extended exposure to moist, warm air.

National Laminated Plastics nationally known—nationally accepted

NATIONAL VULCANIZED FIBRE — A tough, horn-like material with high dielectric strength. Excellent machinability. Sheets, Rods, Tubes, Special Shapes.

PHENOLITE LAMINATED PLASTIC — Good electrical insulating material with great mechanical strength; moisture resistant. Sheets, Rods, Tubes, Special Shapes.

Just published! National Laminated Plastics Handbook. Write for copy. Your company letterhead—please.

NATIONAL VULCANIZED FIBRE CO.
Wilmington, Delaware — Offices in Principal Cities — Since 1873

BREVITY—identify by IEN-2709 if you write the maker

ACEC

Integral Horsepower Electric Motors ¾-200 hp.

NOW AVAILABLE from STOCK in NEW YORK, CHICAGO, KANSAS CITY, NEW ORLEANS, DALLAS and LOS ANGELES Warehouses

Strictly conform to NEMA FRAMES AND SPECIFICATIONS. On hand now, 1-phase and 3-phase Open Drip Proof Motors, Totally Enclosed Fan Cooled Motors, 4 types of Pump Motors, and Adjustable Speed Schrage Motors. All ACEC motors fully guaranteed. Service available from 232 distributors and service shops. Write, wire, or telephone your requirements.

BELGIAN ELECTRIC SALES CORP.
One E. 53rd St., New York 22, N.Y. PLaza 8-3105
Sole Representatives of
ATELIERS de CONSTRUCTIONS ELECTRIQUES de CHARLEROI
Branches and Representatives in Principal Cities

BREVITY—identify by IEN-2710 if you write the maker

a stand-out IN PLANT COOLERS

Here is one of the newest coolers in the Halsey Taylor line—designed for long life and faultless service, with its gleaming stainless steel top and distinctive Halsey Taylor health-safe advantages. It's a stand-out in coolers . . . but just one of the many made by Halsey Taylor for office, or plant use! Write for literature.

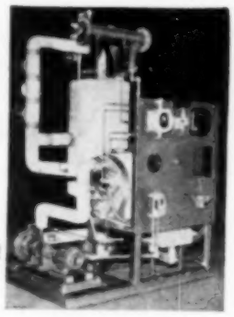
HALSEY TAYLOR *Coolers*

THE HALSEY W. TAYLOR CO. WARREN, OHIO

BREVITY—Identify by IEN - 2711 if you write the maker

Struthers Wells

ELECTRICALLY HEATED UNIT for High Temperature Processes

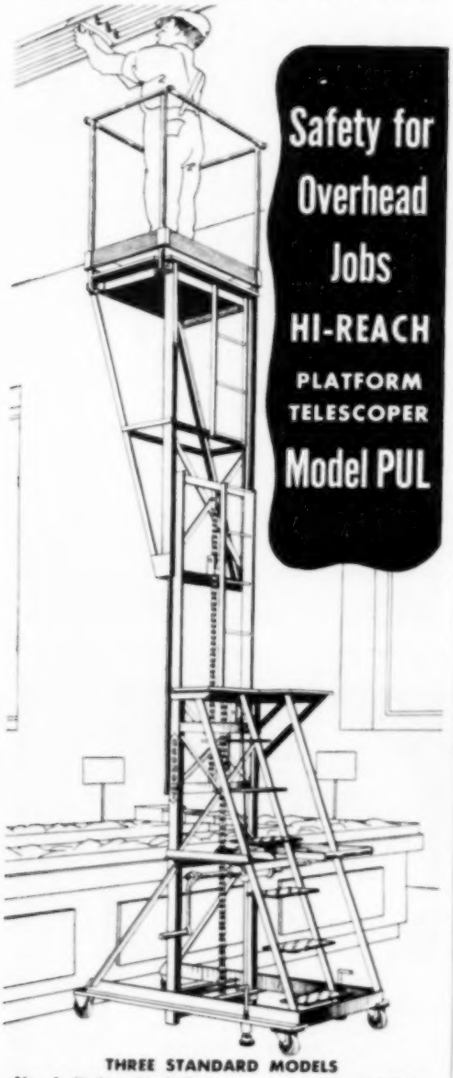


Supplied complete ready for immediate use in heating and cooling service, this unit is available in capacities from 100,000 to 500,000 BTU per hr. Using Dowtherm it has a temperature range to about 750°F. It also is adaptable to other types of heat transfer fluids for lower temperature operation. Due to the correct design of the heating elements, no thermal breakdown or coking troubles are encountered. *Write for Bulletin B-45 on your letterhead.*

Struthers Wells
CORPORATION
Warren, Pa.

PLANTS AT WARREN, PA. • TITUSVILLE, PA.

BREVITY—Identify by IEN - 2712 if you write the maker



Safety for Overhead Jobs

HI-REACH PLATFORM TELESCOPER

Model PUL

THREE STANDARD MODELS

No. 1—Platform lift 10'9"	$305.00
No. 2—Platform lift 11'9"	315.00
No. 3—Platform lift 13'0"	340.00

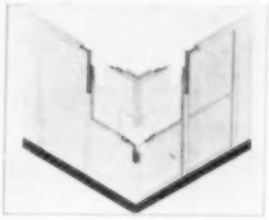
Equipped with 5" diameter base wheels
Rubber-tired wheels $8.00 extra
F.O.B. Chicago
Other models with platform lift up to 95'
Write for complete specifications.

ECONOMY ENGINEERING COMPANY
4502 West Lake Street • Chicago 24, Illinois

BREVITY—Identify by IEN - 2714 if you write the maker

BUILDING . . Sectional partitions made of steel, flush and panel types

Source: VIRGINIA METAL PRODUCTS CORP.
160 W. Broadway, New York 13, N. Y.



Ask for data sheets

Mobilwall trade names new patented partition employing four rolled shapes for rails, a universal post, a cornice, a base, positive-action link plates and floor fittings. Flush Type FF is made by combining these basic shapes with 2⅜-in. rockwool-insulated flush panels or glass and flush steel panels. Type FM is made by combining the basic shapes with ⅜-in. packed steel or glass panels. Type FF interlocks with Type FM.

The two designs are suited for use in construction of executive offices, private offices, conference rooms, general offices, corridors, storage rooms. Specification data, construction, and scale drawings are available on request.

BREVITY—Identify by IEN - 2715 if you write the maker

TESTING . . Electronic equipment produces sonic waves for research

Source: RAYTHEON MFG. CO.
188-92 Willow St., Waltham 54, Mass.

Bacteria are disintegrated

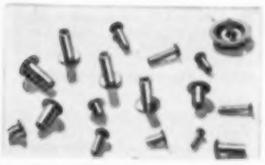
The effect of sound waves on living organisms and on chemical mixtures can be observed in laboratory setup with the aid of a new magnetostriction oscillator available from the company. It consists of an electronic driving element, a hollow vibrator column and a cup assembly. Size of each unit and the nesting of vibrator and cup permit operation in restricted space.

Two sizes operate at 9,000 and 10,000 cycles, have recommended capacity of 25 and 50 cc. and deliver about 50 and 200 watts to the magnetostriction rod.

BREVITY—Identify by IEN - 2716 if you write the maker

FASTENING . . Die cast rivets, zinc alloy, tubular and semi-tubular

Source: GRIES REPRODUCER CORP.
793 E. 133rd St., New York 54, N. Y.



Samples on request

Standard sizes for delivery from stock range from $\frac{1}{16}$ to $\frac{9}{64}$ in. in shank diameter with lengths to ⅜ in. in the company's new line of die-cast rivets. Oval or flat countersunk heads can be specified as well as special head designs for quantity production. Finish is plain bright or commercial as required. Tensile strength is about 45,000 lb. per sq. inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2717 if you write the maker

"Let me send you the new circular on Trabon Swivels"

Trabon Steel Swivels
Sizes ¼" to 1" pipe
Pressure or Vacuum Service

THOUSANDS IN USE . . .

Write for your free copy of Bulletin No. 424

Trabon
OIL AND GREASE SYSTEMS

TRABON ENGINEERING CORP.
1814 East 40th Street
Cleveland 3, Ohio

BREVITY—Identify by IEN - 2718 if you write the maker

Poor Voltage Slowing Production?

...install General Electric Inductrols

(dry-type induction voltage regulators)

When voltage sags, motor performance and lamp brilliance suffer. Efficiency and output drop sharply. That's why it pays to keep voltage up with General Electric's Inductrols. These new dry-type regulators *automatically* maintain correct voltage on your electric equipment—assure peak operating efficiency.

G-E inductrols do not require expensive fireproof vaults. All-steel cabinets attractively styled, protect personnel by completely enclosing all live parts.

For information on how, when and where to apply Inductrols contact your G-E sales representative or authorized dealer. Write for Bulletins GEC-712 and GEC-795 *General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

BREVITY—Identify by IEN - 2719 if you write the maker

BREVITY—Identify by IEN - 2720 if you write the maker

Sub-Contract Service

ON DEFENSE OR CIVILIAN WORK

We are equipped to handle volume production of your defense or civilian work. Check your needs against these services and facilities:

STAMPINGS — Over 80 presses up to 125-ton capacity — blank and draw presses included. We furnish dies on request, handle complete job for you.

ROLLED SHAPES — 10 rolling machines for simple or intricate rolled shapes. Greene rolled forms are used by leading firms the world over.

PLATING — Nickel, chrome, cadmium, brass, bronze and zinc.

POLISHING & BUFFING—Hand and automatic equipment.

PAINTING — Spray and dip — air or oven drying — Bonderizing.

ASSEMBLIES — Spot welded, screw fastened, etc. Screw machine sources available for combinations of turned and stamped parts.

G-10a

PROMPT QUOTATIONS. Send blueprints or ask to have representative call.

Greene of Racine

GREENE Manufacturing Company, Inc., Racine, Wis.

BREVITY—identify by IEN-2721 if you write the maker

Variable Speed Control for Light Machinery

Costs only a trifle — brings amazing results

Converts a constant speed motor to a variable speed drive . . . fits on standard motor shaft. Provides accurate, positive speed changes while the machine is running. With a turn of handwheel, you get exactly the right speed for every job under every changing condition. Sizes from ¼ to 1½ hp—$7.50 and up. Write for Bulletin IN 66a-J.

Reeves Pulley Company • Columbus, Ind.
REEVES *Variable Speed Control*

BREVITY—identify by IEN-2722 if you write the maker

FOR OLD TIME VALUES IN MODERN HANDLING EQUIPMENT *You've got to* Buy CLARK

★ **MOTOR**—Designed for CLARK for the specific power requirements of industrial use. Totally protected both motor and electric equipment against damage.

★ **STEERING AXLE**—Floated (all four wheels) **always** on the ground. Better traction, better steering, smoother ride, safety.

★ **DRIVE AXLE BY CLARK**—Regular "Heavy Duty" type. Clark axle—the best that can be use of any axle.

★ **AUTOMATIC ACCELERATION** as employed on CLARK electrics takes out the human error—**no jerking**.

★ **DIRECTIONAL LEVER** on **STEERING COLUMN**—greatly simplifies operation, increases maneuvering speed and fast getaway.

★ **BRAKES HYDRAULIC**—smooth, positive action for safe operation—rugged by built for long-lived efficiency.

To meet the varying needs of users, the CLARK electric fork-truck motors are designed to operate efficiently on any power supply from 30 to 48 volts. CLARK'S standard power supply is 36 volts. These trucks are designed with perfect balance among all components and incorporate a new method of motor winding which provides more efficiency than has ever been offered in an industrial truck motor. . . . There have been many technical changes from year to year in CLARK machines, but there has never been any change in CLARK'S 30-year purpose to give you the best VALUE your money can buy—and there never will be.

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 89, MICHIGAN
Please send: ☐ Material Handling News ☐ Condensed Catalog ☐ Basic Facts Book ☐ Have Representative Call.
Name
Firm Name
Street
City Zone State
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS

BREVITY—identify by IEN-2724 if you write the maker

CONVEYING . . Bucket elevator for chemicals, food products, parts

Source: COUNSEL MACHINE CO.
6-10 Hathaway St., Wallington, N. J.

Each is custom built

Model 20 is a new design in the company's Robo-Lift line of bucket elevators, previously described IEN-7982-51. The new unit rates approximately 25 cfm. in handling breakfast cereals from a dryer to storage and packaging equipment. It provides a 90-deg. lift and an upper horizontal run in addition to the short horizontal feed run at the base.

The buckets are made of stainless steel and carry Oilite trunnion bearings on their two sides. These bearings engage pins extending inward from the two drive chains. The product is carried upward in the bucket to discharge at the top where the buckets are inverted by a stationary tipper that essentially eliminates impact so fragile materials can be handled without breaking them.

BREVITY—identify by IEN-2725 if you write the maker

TIMING . . Motor driven counter, pushbutton start, stop, wheel reset

Source: LABORATORY INDUSTRIES INC.
4708-12 W. North Ave., Chicago 39, Ill.

Labcron, $49.50

Synchronous motor and five-wheel counter are assembled in a cast-aluminum housing equipped with four rubber feet. The motor plugs into a 110-volt 60-cycle ac. line to start a counting cycle when a pushbutton is depressed. The motor stops upon again pressing the button. Resetting is by turning a knurled wheel beside the counter window. Two models read in 0.1-sec. and 0.01-min. intervals with total readings to 9999.9 sec. and to 99.99 minutes maximum.

BREVITY—identify by IEN-2726 if you write the maker

WELDING . . Instruction booklet on how to use an oxy-acetylene torch and equipment

National Welding Equipment Co.
217-20 Fremont St., San Francisco 5, Calif.

ABC information on an oxy-acetylene welding and cutting torch is presented in new 24-page instruction booklet, "Here's How . . .". List price is 50 cents. The booklet describes and shows how to handle gas cylinders, how to connect regulator, hose and torch, how to light and use cutting and welding torches. It includes selector charts for nozzles and tips.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN-2727 if you write the maker

NOELTING **Faultless** ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

NEW! DOUBLE ACTION SPRING CASTER

Doubles Caster Life and Service

Swivel and Rigid Units

Interchangeable Standard Wheels

Durable, Long-lasting Spring and Draw Bars, on centerline of wheel, prevent offset of load.

Wheel contacts floor surface at all levels—eliminates bounce—doesn't raise truck when mounting obstacles.

Write for descriptive literature, no obligation.

FAULTLESS CASTER CORPORATION
Dept. IE, Evansville 7, Indiana
Branches in Principal Cities—Canada Factory: Stratford, Ont.

BREVITY—identify by IEN-2728 if you write the maker

Modern Design SPEEDS PRODUCTION

● Ames micrometer dial indicators are the most modern available today — and naturally so because Ames policy for over 50 years has been continually to improve design, to take advantage of new materials and to utilize the most advanced manufacturing methods. They are a real aid to the quality control engineer who is trying to keep pace with today's high production schedules.

Because Ames Indicators are functionally designed, they have fewer parts than ordinary indicators. Construction is simple with functional parts being larger and more rugged and adequately supported. Operational friction is at a minimum. Thus, Ames Indicators combine extreme sensitivity and accuracy with the ability and endurance to stay right on the job longer.

✓ *Check the list of features:*
1 Forged Solid Brass Case and Stem
2 Heavy Brass Plate
3 Coarse Pitch Stainless Steel Rack
4 Hardened and Burnished Steel Pinion
5 Disk Formed from Steel Engravings
6 Patented Bezel Assembly

B. C. AMES CO. 61 Ames Street, Waltham 54, Mass.
Representatives in principal cities
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

BREVITY—identify by IEN-2729 if you write the maker

PITTSBURGH air pressure tested COILS

Pipe Coils — Bends — Boiler Tubes

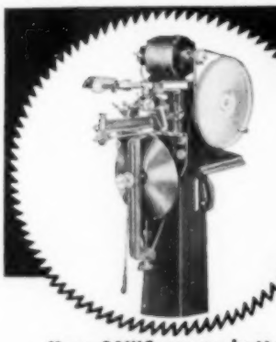
Electrically welded, continuous; Air-Pressure-Tested while submerged in water. Built to your specifications.

— Send for Coil Data Book, and let us quote —

Welded Headers — Welded Ammonia Receivers — Accumulators

Pittsburgh Pipe Coil & Bending Company
Division of Enameled Metals Company
61 BRIDGE STREET ETNA, PITTSBURGH 23, PA

BREVITY—identify by IEN-2730 if you write the maker



Your SAWS are no better than your SAW FILING

Inaccurate saw filing can ruin the cutting efficiency of the best saws, perhaps crack or break them. The machine precision of Foley Saw Filing can increase your sawing output 25% to 40%. The Foley automatically joints the saw as it is filed, making all teeth uniform in size, height, spacing. Foley-filed saws run cooler, cut fast, do beautiful work—and stay sharp longer.

30-DAY TRIAL of the Foley Saw Filer is offered—to show you what a difference Foley-filed saws can make.

FOLEY *Automatic* SAW FILER

FOLEY MFG. CO., 3569 N. E. 5th St., Minneapolis 18, Minn.
Please send literature on the Foley Automatic Saw Filer and details of your 30-Day Trial.
Name
Address

BREVITY—identify by IEN - 2731 if you write the maker

The Colson Universal Drum Truck

for fast, safe handling of drums and barrels

One man, with the COLSON universal drum truck, easily does the work of two. It locks any size container, lifts it easily and carries it with the weight evenly balanced over the wheels.

Other work-saving COLSON equipment: hand trucks, platform trucks, Lift-Jack systems, wheels and casters to meet every application. Write us or consult your phone book for the COLSON office near you.

Write Today for Free 56 Page Catalog.

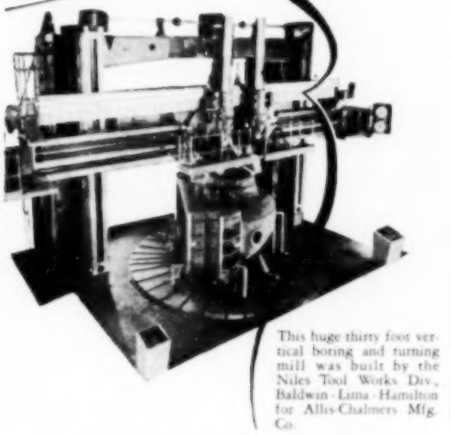
THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • LIFT-JACKS • INDUSTRIAL TRUCKS

BREVITY—identify by IEN - 2732 if you write the maker

ELECTRIC FEEDRAIL

Partial view of 79 pole, multiple conductor Feedrail trolley busway system that distributes current for power and control of this 30-ft. giant mill. Except for critical hand lever adjustments, all control is through buttons and selector switches located in remote dual console stations.

"Nerves" for a 30-ft. giant



This huge thirty foot vertical boring and turning mill was built by the Niles Tool Works Div., Baldwin-Lima-Hamilton for Allis-Chalmers Mfg. Co.

Giant thirty foot boring mills are not built every day. When they are, precision control is essential. A 79 pole multiple conductor Feedrail provides the "nerve system" for finger-tip control and dependable, unfailing power supply for this massive machine.

Every day Feedrail is solving power and control problems. Moving trolley outlets in an enclosed track roll with electric tools which must follow work. Power machines move in and out of work centers quickly, and produce more work in less time. Feedrail flexibility is engineered into standardized units that assemble to give a "tailored to fit" power supply system. Write for literature.

Sold by leading electrical distributors.

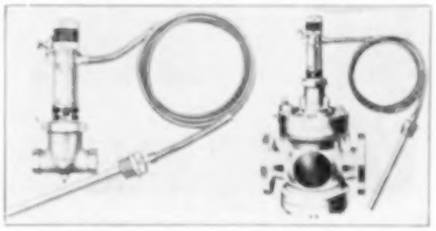
46-C

ELECTRIC FEEDRAIL
Never Becomes Obsolete
FEEDRAIL CORPORATION
125 BARCLAY STREET • NEW YORK 7, N. Y.

BREVITY—identify by IEN - 2734 if you write the maker

VALVE . . Bellows operated, throttles steam for temperature control

Source: FARRIS-STACON CORP.
550 Commercial Ave., Palisades Park, N. J.



Actuated by heat sensitive bulb

Type UBA, to the left in the illustration, and Type 1005 to the right, are new assemblies covering a size range between ¼ and 4 in. in the company's line of packless single-seated temperature-regulating units. In both assemblies the control element above the valve itself is balanced and hermetically sealed. Visual hand control is provided by a dial adjustment at the top. Eight feet of capillary tube and 1-in. pipe-threaded connection on the actuating bulb are standard equipment.

Type UBA is made in ¼, ⅜ and ½-in. sizes for steam pressure to 150 lb. and temperature control in an overall range between 30 and 325 deg. F. Control can be set for any 60-deg. spread within this range. Type 1005 is available with 125 or 250-lb. flanges in sizes from 2 to 4 in. for steam pressure from 10 to 150 pounds. Its overall and control ranges are the same as in the smaller unit.

BREVITY—identify by IEN - 2735 if you write the maker

TRANSFORMER . . Toroidal design, continuous power rating of 90 watts

Source: GENERAL RADIO CO.
273-77 Massachusetts Ave., Cambridge 39, Mass.

List price $55

Type 942-A is a new output transformer available with 18 impedance ratios. Distortion is 1 per cent or less above 30 cycles under normal operating conditions on continuous rating. The unit is capable of handling peak power of 100 watts. Upper frequency limit is between 50 and 100 kc. depending on the connections employed.

Primary windings can be separated as required in single-ended push-pull amplifier circuits. Leakage reactance between primary sections is very small for minimum distortion from switching transients in conventional push-pull circuits. Tight primary to secondary coupling permits feedback with low phase shift. Typical applications are in audio amplifiers, high-power modulators, constant-voltage audio-distribution circuits. Weight is 7 pounds, dimensions, 5⅛ in. in diameter by 3¾ in. in height.

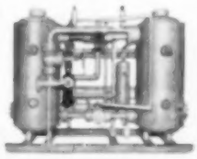
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 2736 if you write the maker

It's UNEXCELLED FOR DEPENDABLE DEHYDRATION

The Quality Pritchard HYDRYER*

The Quality Pritchard HYDRYER* is *unexcelled* for dependable dehydration of air and other gases for instrument and process controls. Dual adsorbers provide continuous drying action. HYDRYER* is standard, packaged unit designed to reduce dew points to minus (−) 40°F. Only service connections are required. Specially designed HYDRYER* units can be tailored to meet your individual requirements.



*Registered Trade Name

WRITE TODAY FOR BULLETIN No. 16.0.080

Cooling Towers
Specialized Heat Exchangers
Gas & Air Treating

J. F. Pritchard & Co.
EQUIPMENT DIVISION
Dept. No. 172 908 Grand Ave. Kansas City 6, Mo.

District Offices: CHICAGO • HOUSTON • NEW YORK • PITTSBURGH
TULSA • ST. LOUIS • Representatives in Principal Cities from Coast to Coast

BREVITY—identify by IEN - 2737 if you write the maker

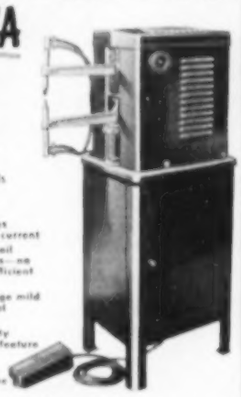
M&M giant keyseaters

M & M Giant Keyseaters, built in a range of sizes, speedily and accurately cut internal keyways or splines in the bores of pulleys, gears, fly wheels or any other machine part. Special fixtures and cutters are available for unusual shaped keyways and taper work. Send us your problems.

mitts & merrill
1014 South Water • SAGINAW, MICHIGAN

BREVITY—identify by IEN - 2738 if you write the maker

GET UP TO 6000 3-Cycle WELDS PER HOUR with Delta 5-KVA AUTOMATIC Spot Welder



An ideal machine for sheet-metal contractors, garages, repair shops, and many kinds of light metal fabricators.

- Fully automatic
- Moving primary coil provides infinite variation of welding current
- One-piece solid secondary coil constitutes the welding horns—no loss of power caused by inefficient connections
- Capacity range from 14-gauge mild steel to paper-thin .002" steel shim stock
- Automatic production, quality control and repeat non-heat feature—no product spoilage
- Weld timing precision-controlled—Dwell or Off-Time fully adjustable

There's a Delta Power Tool for Your Job—Wood or Metal Working

53 MACHINES—246 MODELS—MORE THAN 1200 ACCESSORIES
For Delta dealers see your Classified Phone Directory under "Tools"

DELTA MILWAUKEE
DELTA POWER TOOL DIVISION
Rockwell MANUFACTURING COMPANY
650C E. VIENNA AVENUE, MILWAUKEE 1, WISCONSIN

BREVITY—identify by IEN - 2739 if you write the maker

NEW!

DODGE TRI-MATIC OVERLOAD RELEASE
FOR THE FAMOUS DODGE TORQUE-ARM SPEED/REDUCER

1. LOOSENS THE BELTS
2. CUTS OFF POWER
3. GIVES A WARNING

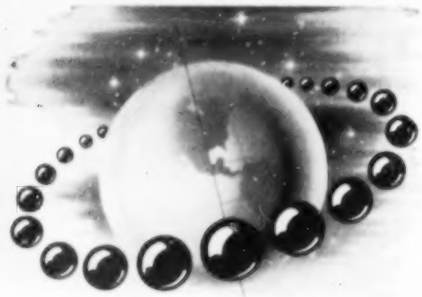
INSTANT ACTION
MECHANICALLY • ELECTRICALLY

New Dodge development provides positive protection for driven machines, motors, and speed reducer itself. Replaces standard torque-arm furnished with Dodge Reducers, which are available in single and double reduction series, capacities 1 to 43 hp, speeds 12 to 330 rpm. Write for details and special data on the new Tri-Matic Overload Release.

DODGE MANUFACTURING CORPORATION, 600 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

BREVITY—Identify by IEN - 2740 if you write the maker



Around the World it's

HOOVER BALLS

made of

CHROME STEEL - CARBON STEEL - STAINLESS STEEL BRASS - BRONZE AND MONEL METAL

"America's Foremost Ball Manufacturer"

HOOVER BALL AND BEARING CO.
Ann Arbor, Michigan

BREVITY—Identify by IEN - 2741 if you write the maker

A. TYPE J11
B. TYPE H5
C. TYPE J99

AN EXTRA-RUGGED WATERPROOF PRESSURE CONTROL

The Type J11 pressure control is a rugged, watertight and shock-resistant control that is precision-built to give highly accurate performance over a long service life. Where weather, shock and vibration are factors to be considered in engine, marine or industrial applications involving the control of gas, air or liquid pressures, the J11 fits ideally into the design. Product performance will be surer and improved. Specifications for the J11 are covered in Bulletin #5-6. A similar control, with outside calibrated adjustment, the Type H5 is covered in Bulletin #5-5. The control in an explosion-proof housing Type J99 is described in Bulletin #5-8. Send for details of the control suited to your application.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

BREVITY—Identify by IEN - 2742 if you write the maker

Backstand belts cut costs!

Learn more about this money-saving method

The backstand-belt method of metal polishing is being used in more and more plants. Why? Because it saves time, cuts costs. Belts cut faster, cooler than set up wheels — and cut down on the number of your operations. To learn more about this modern method of metal finishing, send for Armour's free booklet, "Backstand Belt Polishing."

mail this coupon today

Please send booklet "Backstand Belt Polishing."

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

ARMOUR *Coated Abrasives*

Armour and Company • North Benton Road • Alliance, Ohio

BREVITY—Identify by IEN - 2743 if you write the maker

TRUCK . . Ram attachment to handle coiled wire for processing

Source: BAKER-RAULANG CO.
1248-52 W. 80th St., Cleveland 2, Ohio

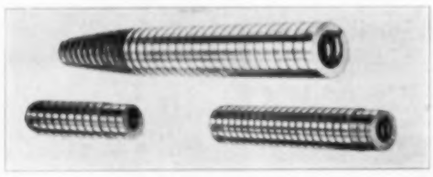
Ram length is 10 feet

One truck and six of the new attachment rams shown in the illustration can keep three wire-drawing machines running steadily. The ram is a new development to pick up coiled wire from storage, take it to feeders supplying the drawing equipment and hold it there while the wire is run off. The truck operator picks up a loaded ram by advancing his truck and raising the cradle-type carriage. The loaded ram is placed in position at the feeder and then is detached from the truck which goes back to pick up another or to remove one that has been cleared for return to the loading position.

BREVITY—Identify by IEN - 2744 if you write the maker

FOUNDRIES . . Flexible flask pin will not seize or bind, stands abuse

Source: MARTIN ENGINEERING CO.
704 Rosion St., Kewanee 2, Ill.



Specified lengths and diameters

Steel spring wound with a tapered end is made with initial tension of approximately 25 lb. coil to coil. It is ground to size on its main body to form a new non-binding flask pin. It will give laterally if it is struck intentionally or by accident. It will come back to its original shape when pressure is released. Its inherent flexibility eliminates binding action when a cope is withdrawn from a drag.

BREVITY—Identify by IEN - 2745 if you write the maker

TESTING . . Information booklet on care and handling of glass volumetric apparatus

Owens-Illinois Glass Co.
538 Ohio Bank Bldg., Toledo 1, Ohio

Specific instructions along with background information are given in new 28-page Bulletin TK 33-514, "The Care and Handling of Glass Volumetric Apparatus." Topics include units of measurement, cleaning methods, filling and emptying, calibration methods, delivery characteristics.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BREVITY—Identify by IEN - 2746 if you write the maker

IT'S ALLIED FOR RCA
electron tubes for industry

Quick, Expert Service on all RCA special-purpose industrial tubes

ALLIED maintains in stock *for quick shipment*, the world's largest distributor inventory of RCA special-purpose tubes—*of all types*. We specialize in supplying the needs of industrial, broadcast, governmental and other users. To save time, effort and money—phone, wire or write to ALLIED for *quick* shipment. Fill *all* your needs from the *complete, dependable* electronic supply source.

ALL TYPES IN STOCK
- Vacuum Power
- Thyratrons
- Vacuum & Gas Rectifiers
- Ignitrons
- Cold-Cathode
- Phototubes
- Oscillograph Tubes
- Camera Tubes
- Monoscopes
- Special Types

FREE Interchangeability Directory

Valuable guide to selection of proper RCA tube type replacements. Lists 1600 tube types. Write for Free RCA Guide No. 37-046

see your 1952 ALLIED catalog

Refer to your ALLIED Catalog for *all* electronic supplies—parts, tubes, test instruments, book, audio amplifiers, accessories—available from the world's largest stocks. Write today for your FREE copy of the *complete* 212-page 1952 ALLIED Catalog.

ALLIED RADIO
833 W. Jackson Blvd., Dept. 14-C-2
Chicago 7, Ill.

Everything in Electronics from ONE Source

BREVITY—Identify by IEN - 2747 if you write the maker

VARGLAS permafil SLEEVING

Shortly after our first announcement of Varglas Permafil Tubing, engineers began praising its many features — especially its extra flexibility and toughness.

Now, for the first time, Varglas Permafil Sleeving is available in N.E.M.A. grades C-2 and C-1. This new sleeving is lighter coated than the Permafil Tubing but it frequently does the insulating job where tubing was formerly used — and, of course, the cost is much less. Available in coils. Write for free test samples and prices.

VARFLEX CORPORATION
306 Jay St. Rome, N.Y.

BREVITY—Identify by IEN - 2748 if you write the maker

Well Stacked!

- Prefabricated pallet racks by Equipment Mfg. Inc. permit stacking to conserve floor space without tying up low level material. They are engineered for strength, safety and flexibility. There's a type to suit your particular needs.

Write for our catalog. It illustrates all types.

EQUIPMENT MFG. INC.
21564 Hoover Rd. • Detroit 5

▼ BREVITY—Identify by IEN - 2750 if you write the maker ▼

On any metal finishing problem

DEPEND on DU-LITE TO CUT COSTS

Courtesy Artistic Wire Products Co.

For instance . . .

Graphitic compound, grease and oil made these wire dish strainers tough to prepare for plating. Upon using Du-Lite's #31 Cleaner, the strainers were thoroughly cleaned, and surfaces prepared for plating, with a saving of 1000 lbs. of cleaning compound per month.

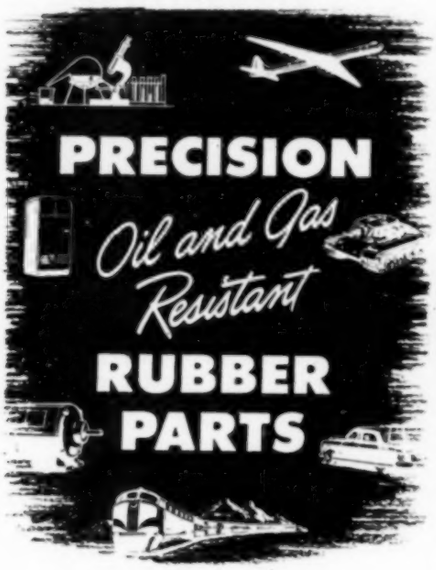
What's YOUR problem?

Du-Lite's service to industry is complete from research on specific metal finishing problems to installation of processing equipment. Du-Lite's line includes cleaners, strippers, blacking agents, wetting agents, passivating agents, rust preventatives, burnishing compounds etc. for any type of metal.

See your nearest Du-Lite Field Engineer or write for more information.

Du-Lite DU-LITE CHEMICAL CORP. MIDDLETOWN • CONN.
METAL FINISHING SPECIALISTS

▼ BREVITY—Identify by IEN - 2751 if you write the maker ▼



- **Withstand severe service conditions**
- **Tensile strengths up to 2600 p.s.i.**
- **Meet S.A.E., A.S.T.M. or individual specifications**

Maximum resistance to oil and gasoline is built into the gaskets, seals and other parts produced by STALWART for use wherever these substances are encountered. Stocks compounded specifically to withstand petroleum products are precision-fabricated into parts vital to the automotive, aviation, petroleum, chemical processing and similar industries.

Parts can be supplied with excellent resistance to weathering, abrasion and both high and low temperatures. They retain their desirable properties despite prolonged exposure to the most adverse service conditions.

Stalwart is prepared to supply molded, extruded, lathe-cut or die-cut parts to meet your specific requirements.

Before Aging					After Aging							
					Normal (70 hrs. @ 212° F.)			In No. 3 Oil (70 hrs. @ 212° F.)				
Stock No.	Manufacturer Code	Durometer Hardness Shore A Scale	Tensile Strength p.s.i.	Elongation per cent	Hardness Shore A	Tensile p.s.i.	Elong. %	Hardness Shore A	Tensile p.s.i.	Elong. %	Volume Swell Factor
720	Hycar	60	1150	380	80	1200	150	60	1437	198	11.0% Decreased
740	Hycar	80	1510	122	88	1467	90	80	1699	87	7.0% Decreased
741	Hycar	85	1390	100	95	1700	30	95	1801	75	6.3% Decreased
756	Buna-N	55	1313	238	70	1579	195	48	1321	242	18.0% Increased
761	Hycar	80	2000	200	80	2065	169	68	2084	173	5.3% Increased
838	Hycar	60-65	2141	435	67	2000	320	77	2311	150	7.0% Increased
846	Hycar	65	1460	640	72	1122	400	50	870	285	13.5% Increased
870	Hycar	77	1640	248	78	2486	200	51	1799	150	8.0% Increased

Write today for Catalog No. 515R-1.

STALWART RUBBER COMPANY
200 Northfield Road • Bedford, Ohio

▼ BREVITY—Identify by IEN - 2753 if you write the maker ▼

SEPARATING . . Centrifugal purifier for steam, compressed air, gas lines

Source: V. D. ANDERSON CO.
1931 W. 96th St., Cleveland 2, Ohio

Built to ASME Code

Air, steam, gas containing liquid and solid foreign matter enter the left-hand side of this new Line Type purifier as it is shown in the illustration. A vane assembly inside the housing sets up rapid rotation to throw the heavier materials outward from where they drain down for ejection through an outlet and trap connection near the right-hand end. The unit applies in horizontal position in a pipe line or in vertical position for flow downward.

Three designs are suitable for low pressure, 150 and 300-lb. and 600-lb. pressure. In each is a range of sizes, the first from 12 to 24 in. based on the pipe line in which application is made, the second from 2½ to 10 in., the third, 600-lb. unit, from 2½ to 8 inches. The low-pressure 12-in. assembly measures 54 in. in overall length by 24 in. in greatest diameter. The 8-in. high-pressure unit measures 45 by 16 inches.

▼ BREVITY—Identify by IEN - 2754 if you write the maker ▼

PLASTIC . . Polyester film, transparent, flexible when cold

Source: E. I. du PONT de NEMOURS & CO.
2518 Nemours Bldg., Wilmington 98, Del.

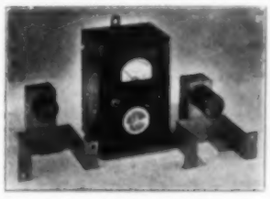
Now lists at $3 to $4 per pound

Limited production is announced by the company, for test purposes, of its new polyester film trade named Mylar. It is similar in appearance to cellophane. Potential applications include electrical insulation, use in film-base tape and in laminations with other materials. The film retains its flexibility at low temperatures. It has good dimensional stability under changes in humidity and chemical resistance.

▼ BREVITY—Identify by IEN - 2755 if you write the maker ▼

SIGNALING . . Photoelectric indicator reads smoke density in flue to chimney

Source: CLEVELAND FUEL EQUIPMENT CO.
7314-18 Associate Ave., Cleveland 9, Ohio

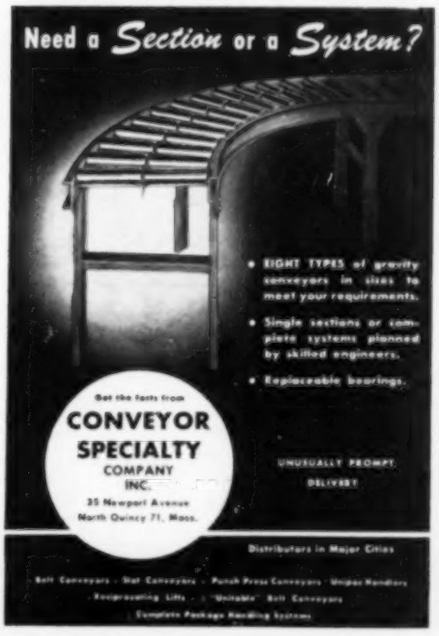


To watch your smoke

Light source, photoelectric cell and a control housing with amplifier, relay, smoke-density meter and signal light make up a new assembly of equipment to signal smoke density in a flue. Also available is an adjustable time-delay circuit to provide delayed action of corrective equipment in an installation to control as well as signal. Operation can be specified on 110 or 220-volt 60-cycle ac.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2756 if you write the maker ▼



▼ BREVITY—Identify by IEN - 2757 if you write the maker ▼

LISTEN TO YOUR COMPRESSOR

frequent running costs you money!

CHAMPION

aero-dynamic design . . .
cuts running time 6 ways!

Compressors that run too frequently cost you money! Excessive running causes excessive wear, raises electric costs by increasing consumption, and slows work through reduced pressure. Champion Air Compressors are Aero-Dynamically engineered to deliver cool air to the receiving tank in a minimum of running time. Get all the facts on Champion's Aero-Dynamic Compressor design.

this FREE MANUAL
shows you how to select the proper air compressor. Write for your copy TODAY!

CHAMPION PNEUMATIC MACHINERY CO.
844 N. Pleasant Street Princeton, Illinois
PRESSURE CLEANERS • AIR HOSE REELS • AIR ACCESSORIES

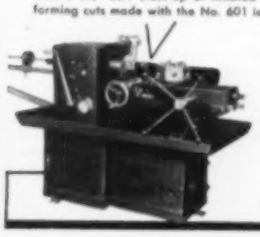
▼ BREVITY—Identify by IEN - 2758 if you write the maker ▼

▼ BREVITY—Identify by IEN - 2759 if you write the maker ▼

OSTER

No. 601 "RAPIDUCTION" the SIMPLIFIED LATHE

View shows this lathe removing a .007" chip on S.A.E. 1335 steel with a 3½" cut. Close-up of finished part is example of heavy forming cuts made with the No. 601 lathe. *It's EASY to operate!*



Capacity: 1¼" round bar. Optional features include WORM drive or DIRECT drive; 2-speed or 4-speed motor; other optional features. Write for Bulletin No. 601.

THE OSTER MFG. CO.
2053 EAST 61st STREET
CLEVELAND 3, OHIO

BREVITY—Identify by IEN-2760 if you write the maker

REALOCK FENCE

gives **locked-in** protection

All fittings on Realock Fence have bolts so placed that nuts cannot be removed from the outside. This means that Realock Fence provides *added protection* for your grounds and property . . . effectively discourages tampering by would-be trespassers.

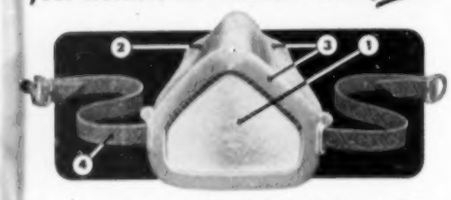
Strongly constructed, Realock Fence has high resistance to the elements because of a special galvanizing process . . . gives permanent protection and trouble-free service year after year. For additional information write our nearest sales office or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Buffalo, New York

REALOCK FENCE
THE COLORADO FUEL & IRON CORPORATION
CF&I
BRANCHES IN ALL KEY CITIES

BREVITY—Identify by IEN-2761 if you write the maker

4 Reasons why FLEX-A-FOAM (and *only* FLEX-A-FOAM) provides Dust Protection your workers will welcome and *Wear*



1. Pure latex washable filter purifies the air of non-toxic nuisance dusts as small as 1/25000 of an inch — yet it's easier to breathe and talk through than an ordinary pocket handkerchief! Out-wears throw-away type filter as much as 100 to 1.

2. Perfectly contoured for self-adjusting fit to every size and shape of face—designed for wear with spectacles or goggles with perfect comfort.

3. Positive-locking frames of polyethelene plastic, so flexible and tough they're unbreakable in normal usage. Complete mask weighs only 1 ounce. Attractively styled to suit the most discriminating wearer.

4. Defiance non-skid, natural rubber head-band with adjustable hook-and-eye fasteners holds mask firm and comfortably snug without tension or hair-pulling.

FLEX-A-FOAM FILTER MASK

Sample $1.40 postpaid

Write for new descriptive folder

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

BREVITY—Identify by IEN-2762 if you write the maker

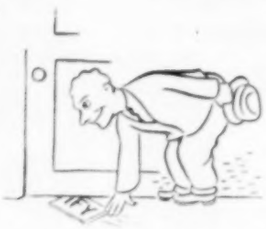
Unusually Large Cap Screws
Cleveland *Top Quality*

Usually hard to find, these larger sizes are regular Cleveland production.

Here's your source for "larger than usually listed" hex head Cap Screws (up to 2½" dia.). Also Set Screws to 1½" x 10". Cleveland Fasteners include hex, flat, socket, fillister head Cap Screws; Milled Studs and Set Screws.

CLEVELAND *Top Quality* FASTENERS
THE CLEVELAND CAP SCREW COMPANY
2437 EAST 79TH STREET • CLEVELAND 4, OHIO
Warehouses: Chicago, Philadelphia, New York, Providence
Ask your jobber for Cleveland Fasteners

IDEAS FOR YOU



Items of particular interest in the news other than straight new products, development pointing toward the future, unusual procedure to accomplish a point, suggestions for practical action, each to provide ideas for you.

IEN-2763

Paint party might name a new way of painting in which the painter "pours" using a two-gallon oil can for the paint pot. Paint foreman at Aluminum Company originated the idea as a simple, effective and economical way to paint woven-wire fence. Equipment includes two flat panels to secure on the two sides of a fence panel. The paint is poured between them. At the bottom is a shallow trough to catch the downflow so it can be poured again. Five-foot panel takes two men five minutes.

IEN-2764

Monsanto calls it Krilium and adds that it is based on a synthetic polyelectrolyte. You mix it with grass seed and fertilizer and apply the mixture on freshly graded slopes such as cuts resulting from highway construction. Application is from mobile equipment delivering a water spray. It also spreads dry by dusting. It forms a water-permeable plastic film on the ground during the period necessary to establish a permanent cover crop to prevent erosion. It holds both the soil and the seed in place.

IEN-2765

You reach into your pocket, bring out a few coins and drop them into a slot. About a minute later out will come a dinner plate on which will be a steaming hot meal of meat, potatoes and vegetables. That is what T. P. Curtis of the GE. Tube Department forecasts as he talks about the food dispenser of the future and the magnetron tube to do the heating.

IEN-2766

You may be a smart operator in your business dealings with your regular products and, at the same time, you may be just about giving away your shirt when it comes to disposing of the scrap resulting from your plant activities. One James Flett discovered that to be a fact some years ago and founded a service organization on it. Now, with all types of scrap on the critical lists, should be an excellent time to talk with his organization to see what may be done to turn a good profit for you and start the needed scrap back to the mills.

IEN-2767

Want a boat, a Fisher Combax combustion boat with a cover to hold a steel sample for carbon and sulfur determinations? The Fisher company will send you a sample package without charge. The boat is particularly for laboratories. It will not crack or burn through in temperature to 2,400 deg. F. It's sort of a River Styx job.

IEN-2768

More light from the same slimline fluorescent lamps, 40 per cent more, is obtained by operation at 360 cycles instead of 60 cycles. The current comes from a GE. magnetic converter which steps up the frequency from a 60-cycle line. The converter has no moving parts.

BREVITY—Identify by IEN-2769 if you write the maker

THINKING OF STAINLESS?

THINK OF **ALLMETAL** FOR THE FINEST IN **STAINLESS STEEL FASTENERS**

FOR QUALITY AND DELIVERY

Complete facilities under one roof assures controlled quality and immediate delivery. Standard and "AN" specs. Specials to order.

ALLMETAL, Specialists in Stainless, Produce Stainless Products Exclusively

Write for Catalog K

MANUFACTURERS SINCE 1939
ALLMETAL SCREW PRODUCTS COMPANY, INC.
33 GREENE STREET NEW YORK 13, N. Y.

BREVITY—Identify by IEN-2770 if you write the maker

Built to last!

REED
LONG JAW PIPE VISES
Work Better, Faster, Easier.

Wrench action of patented, long-bearing jaws holds any pipe firmly without crushing or marring. Lower jaws are reversible for double service. Patented features end lost motion. Precision machined throughout. *Ask your jobber.*

Remember . . . In a vise or pipe tool, if it's a *REED* . . . it's *RIGHT!*

REED TRADEMARK
MANUFACTURING COMPANY
ERIE, PENNSYLVANIA

BREVITY—Identify by IEN-2771 if you write the maker

"ABSORPTION PROCESS"

makes **Kalman CONCRETE FLOORS**

- TOUGHER
- UNIFORMLY HARDER
- LONGER-LASTING

Find out how the "Absorption Process" creates maximum density and greater strength over the entire concrete floor surface area.

Remember Kalman as a national organization handles the complete floor installation, with trained crews, and takes full responsibility.

WRITE FOR FREE BOOKLET

KALMAN FLOOR CO., INC.
110 East 42nd Street, New York 17, N. Y.
Boston · Charlotte · Chicago · Cleveland · Dayton · Detroit
Houston · Los Angeles · Philadelphia · San Francisco

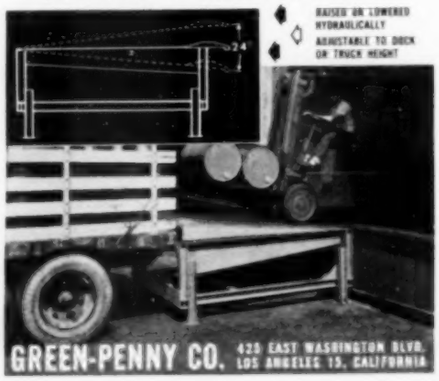
BREVITY—Identify by IEN-2772 if you write the maker

HYDRAULICALLY CONTROLLED **adjustable Loading ramp**

No installation is required for the Green-Penny Loading Ramp. Just set in place and plug into convenient 110v. outlet. No costly extras needed. It is adjustable to dock height and is hydraulically raised or lowered to truck bed. "It floats with the bed."

Easy to operate. Single-control lever, flush with the deck, raises or lowers ramp. Deck travel is 24". Capacity 20,000 lbs. Two sizes.

Simplify loading operations and make your shipping department more efficient. Write for Bulletin No. 100.



GREEN-PENNY CO. 425 EAST WASHINGTON BLVD. LOS ANGELES 15, CALIFORNIA

BREVITY—Identify by IEN - 2773 if you write the maker

That's the production byword in plants everywhere . . . put the job on the Abrasive No. 3B Surface Grinder for high output and high accuracy. This powerful grinder handles heavy production schedules accurately . . . holds size to very close tolerances. The bed of the Abrasive No. 3B Surface Grinder is a single casting, heavily reinforced for strength and rigidity. All other details of construction combine to make this the outstanding grinder in its class. Capacity: 24" long, 8" wide, 12" high. Write for complete details. ABRASIVE MACHINE TOOL CO., 18 Dunellen Road, East Providence 14, Rhode Island.

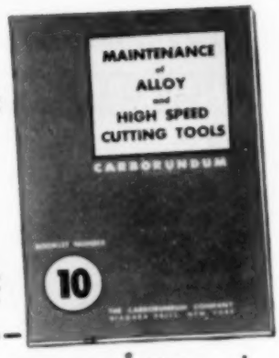
ABRASIVE
ACCURACY QUALITY PRODUCTION
Abrasive Quality Is Reflected In the Finish of Your Product

BREVITY—Identify by IEN - 2774 if you write the maker

IT'S FREE

This new booklet tells

HOW TO GET LONGER TOOL-LIFE



72 FACT-PACKED PAGES

- Lathe and Planer Tool Grinding
- Cutters and Reamers
  - Grinding Methods
  - Proper Clearance Angles
- Typical Tool Sharpening Setups
  - Spiral and Side Milling Cutters
  - Large Face Mills
  - Angular Cutters
  - Formed Cutters—narrow and wide face
  - Straight-toothed Hobs
- Reamers
- Thread Chasers
- Drills, Taps, Broaches
- Surface Grinding
- Cylindrical Grinding
- Internal Grinding
- Lapping in the Tool Room
- Grinding Wheel Grading Recommendations

New men to train? Defense contracts? New methods?

BOOKLET NO. 10, newly revised, is crammed full of factual, easy-to-follow instructions for sharpening every kind of cutting tool. In addition to the subjects listed in the box, there are tables and diagrams on a wide variety of typical tools, showing the proper rake, clearance and cutting angle of each. Pocket-size, handy to use, clearly and profusely illustrated, a treasure-house of valuable information. Send for your copy today.

Only **CARBORUNDUM** TRADE MARK offers ALL abrasive products ...to give you the proper ONE

"Carborundum" is a registered trademark which indicates manufacture by The Carborundum Company, Niagara Falls, New York

IDEAS FOR YOU—Continued

IEN - 2776

Connecticut General Life Insurance Co. will send you a copy of a story that appeared in the Saturday Evening Post concerning a manufacturer who obtained financial backing from the Federal Reserve on the strength of hiring only disabled veterans. It is a moving story, one that shows what men can do when given the opportunity. It might prove an idea for you on the fact that the Air Force intends to see the plan is copied in plants doing Government business.

IEN - 2777

Necessity "mothered" invention in a conveyor line handling iron ore in Michigan. The necessity is to operate in sub-zero weather. Then the ore freezes and sticks to the belt. The invention is a new conveyor arrangement. It turns the Goodrich belt over through 180 deg. at each end after delivering its load, and before taking on more. Thus the clean side runs on the return idlers, cannot clog or cause damaging buildup on the idlers and pulleys of the installation.

IEN - 2778

Six workers who have inhaled hazardous gases or fumes can be treated at one time with Mine Safety equipment that has been installed by a chemical plant. A manifold runs back of six beds in the first-aid station to bring oxygen from a central supply. Breathing apparatus can be plugged in at each bed for individual treatment of all six victims at once.

IEN - 2779

Production scheduling is a bottle neck for National Production Authority in Washington, D. C. Accordingly the organization is looking for men qualified on the subject in metal products, machinery, electrical and electronic equipment, aircraft and scientific equipment. You go in through Civil Service by way of an application blank which you can get in any post office. You send the completed application to U. S. Civil Service Commission, Washington 25, D. C. Pay is $8,360 to $9,000 if you are accepted.

IEN - 2780

Inexpensive means to protect against corrosion and provide an excellent primer base for subsequent paint finishing is to apply a metal wash primer based on Vinylite resin. It dries in about half an hour following application on a properly cleaned surface. Bakelite Company can tell you sources.

IEN - 2781

Nozzle tip wear in automatic arc-welding equipment can be virtually eliminated by lining the nozzle with Carboloy carbide according to GE. engineers. Carboloy guide rings directing the electrode wire over a feed pulley and guide blocks at the conical feed rolls stop wear at these points.

IEN - 2782

Thoughtfully the Nelco Company listened to reports of interference in television reception in the neighborhood on account of its induction brazing equipment. Result is a new electrically-leak-proof room in which the brazing equipment is installed. The company will give you the design details.

IEN - 2783

A manufacturer needing a radial drill quickly looked about him to see what might be done. He saw a Walker-Turner upright standing in the corner. He took off the base, ran the column up through the head, made a trolley in which he anchored the column. Then he hung the works on an overhead jib-crane track. Simple, what?

BREVITY—Identify by IEN - 2784 if you write the maker

USE PREP PRODUCTS!
TO MEET GOVERNMENT SPECS.
MIL-C-10578 JAN-C-490
MIL-C-5541 USA-57-02C
For other Gov't Specs. write for Specification Data Sheet

Prep-n-Cote — Multi-Purpose, Corrosion Resisting, phosphate coating and cleaning product for mechanical cleaning systems. Described in Prep-n-Cote Bulletin 48-91.

Metalprep — General all-purpose Rust Remover and Metal Cleaner, available in wipe-off and dip type grades . . . Described in Metalprep Bulletins 50-34 and 50-37.

Lyfanite — Corrosion-proof Coating for Aluminum Alloys, providing thousands of hours of salt spray and humidity resistance . . . Described in Lyfanite Bulletin 49-08.

Galvaprep — Provides greater paint adhesion on Galvanized Iron, Galvanneal and other zinc-coated surfaces . . . Described in Galvaprep Bulletin 48-89.

"PREP PRODUCTS Used First... Make Your Paint Finish Last"

Prep-pik-I — Heavy Rust and Light Scale Remover, non-corrosive on surrounding equipment . . . Described in Prep-Pik-I Bulletin 49-3.

Rust-preev — Economical process to preserve Ferrous Metals from rusting during fabrication and interim storage periods . . . Information on request.

Alumiprep — General all-purpose Metal Conditioner for Aluminum Alloys, available in wipe-off and dip grades . . . Described in Alumiprep Bulletin 50-62.

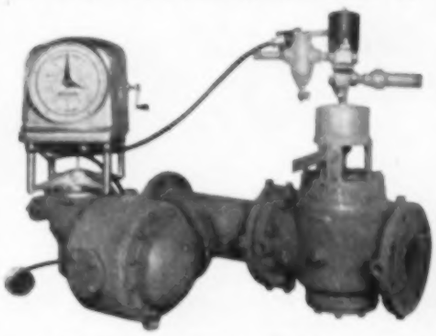
Emulsoprep — Emulsion and Alkaline Metal Cleaners, available for all types of metals and applications, dip or spray . . . Described in Emulsoprep Bulletin 50-61.

. . . and General PREP Bulletin 48-50

NEILSON CHEMICAL COMPANY

3602 Tecumseh Rd. Windsor, Ont. — 6884 BENSON ST., DETROIT 7, MICH. — 3411 Union Pacific Ave. Los Angeles 33, Calif.

BREVITY—Identify by IEN - 2785 if you write the maker



AUTOMATIC VALVES
for hard-to-reach places

Automatically operated jacketed valves, which have long been used with H & B Fluidometer metering systems, are now available for use where remote control is required without automatic batching features. See typical application above.

Valves of either straight, 3-way plug cock, or straight globe type are available for steam, air or hydraulic operation. These valves provide the solution to many problems of actuating valves in hard-to-reach places.

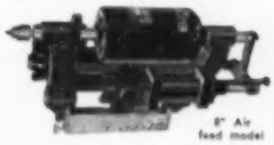
Write for Bulletin FI-49.

HETHERINGTON & BERNER INC.
725 Kentucky Ave. Indianapolis 7, Ind.

BREVITY—Identify by IEN - 2786 if you write the maker

Precision Hi-Speed Drilling in Metal, Wood, Plastic or Composition—.004"-.156".

Check These 9 Features


8" Air feed model

- Fingertip variable speed
- Fast approach air feed
- Hydraulic feed control
- Electric or manual controls
- Deep hole drill cleaning
- Sensitive precision spindle
- 1000-10,000, 2500-15,000 RPM
- Can be mounted at any angle, with hand or power feed
- Price 8" model, hand feed, from $130.00. Air feed model (as shown) from $238.50.

Write for helpful bulletin

The ELECTRO-MECHANO CO.
267 E. ERIE ST., MILWAUKEE 2, WISCONSIN

BREVITY—Identify by IEN - 2787 if you write the maker

HEVI DUTY ELECTRIC COMPANY

A "MULTIPLE UNIT" TEMPERING FURNACE

That Gives You Many Advantages!
Temperatures From 300° F. to 1250° F.

Type 0771A (inside dim.) 7" W x 12" L x 7" H

- Uniform Heating With High Speed Circulation
- Less Heat Loss — Improved Insulation and No Rheostats
- Better Control Through a 36-Step Tap Changing Transformer Built Into the Pyramidal Base
- Indicating Pyrometer Mounted on Panel With Tap Switches
- Easily Removed Alloy Baffle
- Dependable "Multiple Unit" Heating Elements

WRITE FOR BULLETIN LAB-1049.

HEVI DUTY ELECTRIC COMPANY
HEAT TREATING FURNACES HEVI-DUTY ELECTRIC EXCLUSIVELY
DRY TYPE TRANSFORMERS — CONSTANT CURRENT REGULATORS
MILWAUKEE 1, WISCONSIN

BREVITY—Identify by IEN - 2788 if you write the maker

You can do a lot

with a little **GOLD SEAL TAPE**

You can talk all you want to—Gold Seal is the best buy in tape. It *sticks* to the job. Laboratory control of production assures lasting "tack" in the friction compound. And it goes *further*. There's more tape value in every roll because there's no waste. In 10-roll cartons and single rolls—each roll cellophane-wrapped for factory-freshness. Jenkins Bros. (Rubber Division), 80 White St., New York 13, N. Y.

JENKINS Gold Seal Tape
FRICTION...RUBBER

MADE BY JENKINS BROS. . . . MAKERS OF FAMOUS JENKINS VALVES

BREVITY—Identify by IEN - 2789 if you write the maker

Line-O-Power

STRAIGHT LINE DRIVES

High quality, compact design incorporating Duti-Rated high hardness precision gears assembled in streamlined housings of rugged cast iron.

Accurate high production machine tools assure low original cost. Simplified construction, direct splash lubrication, quality workmanship assure long wear life. Efficiencies of 96% or higher.

Double and triple reduction—capacities 1 to 175 h.p., ratios 5 to 1 up to 238 to 1.

FOOTE BROS. GEAR AND MACHINE CORPORATION
Dept. IEN, 4545 S. Western Ave.
Chicago 9, Illinois

WRITE for BULLETIN LPB

FOOTE BROS.
Better Power Transmission Through Better Gears

BREVITY—Identify by IEN - 2790 if you write the maker

TAP BREAKAGE Reduced

The **DAHLSTROM TAP GUIDE** practically eliminates tap breakage and saves wasted hours getting broken taps out of expensive dies. It does the job in a jiffy with work always straight and true. Carry it over to your big work, or fasten it to a post, slip a Tap Adaptor into the spindle, and even an inexperienced operator can handle it. Equipped with 9 Adaptors, ranging from 8-32 to ¾". Spindle has center in top and to go in tail stock of lathe, or use it as a tap extension for hard-to-get-at places.

$59.50 F. O. B. ST. PAUL

Write for circular.

for HAND TAPPING or LATHE USE

DAHLSTROM MFG. CO.
2516 W. Larpenteur Ave., St. Paul 8, Minn.

Dahlstrom TAP GUIDE

BREVITY—Identify by IEN - 2791 if you write the maker

VALVE . . Thermostatic design limits top temperature in water heater

Source: McDONNELL & MILLER INC.
3502 N. Spaulding Ave., Chicago 18, Ill.

Listed by AGA

Vernatherm trade names the hermetically-sealed thermostatic operating element in this new No. 201 temperature-relief valve. The element contains a mixture of organic and metallic particles which expand and contract in response to variations in temperature and set up forces to open and close the valve orifice. Opening starts at 188 deg. F. and reaches maximum at 208 deg. F. Excess temperature will not damage the element. Fatigue tests show service life of about 10,000 operating cycles.

Service flow from a tank can be made to pass around the element with each demand for hot water by adding a fixture connection to the valve in addition to the inlet and drain connection. This minimizes temperature lag, eliminates air pockets at the valve, flushes out the valve mechanism each time there is a demand for water. The valve is made in a ¾-in. size for operating pressure at 25 lbs.

BREVITY—Identify by IEN - 2792 if you write the maker

CASTER . . Knee action design cushions load over a rough floor

Source: ALL STEEL WELDED TRUCK CO.
1147-51 Railroad Ave., Rockford, Ill.

Overloading cannot damage

Clark Duoflex provides 2 in. of vertical wheel movement by means of its spring-backed knee action when an obstruction is met. As a result it assists in cushioning a loaded truck as it moves over an uneven floor or a rough surface. Rigid and swivel designs are included in the line with wheel sizes from 6 to 20 inches. Various materials can be specified for the tire. Weight capacity ranges from 90 to 1,600 pounds.

BREVITY—Identify by IEN - 2793 if you write the maker

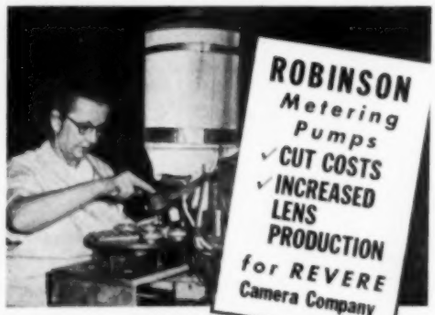
ELECTRONIC PRODUCTS . . Color code chart on resistors, capacitors, transformers, wiring

Centralab Division
902 E. Keefe Ave., Milwaukee 12, Wis.

Initial distribution of new "Electronic Color Code Chart" is through the company's representatives and jobbers. The 30 by 36-in. chart outlines standard color codes for transformers, battery cables, antenna and ground leads, telephone switchboard cable, RTMA and JAN capacitor values for mica, paper and ceramic types, standard values for fixed composition resistors, other capacitors and resistors, electro-dynamic speakers, radio and television chasses.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2794 if you write the maker



ROBINSON Metering Pumps
✓ CUT COSTS
✓ INCREASED LENS PRODUCTION
for REVERE Camera Company

Revere reports increased production —fewer rejects by using the Robinson Metering Pump for blocking lenses. It meters exact amounts of pitch faster and more accurately than their old method of application.

This versatile production tool may be the economical solution to one of your problems. Write us for specific information.

- Forcibly ejects fluid compounds—not a gravity dispenser
- Controls heat thermostatically
- Ejects fast . . . accurately
- Change discharge without tools rapidly
- Reduces unit costs . . . no skilled operator needed
- Adaptable to any production technique

EDWARD E. ROBINSON
INCORPORATED
P.O. Box 47
95 PARK AVE. · NUTLEY 10, NEW JERSEY
Telephone NUtley 2-4510

BREVITY—Identify by IEN - 2795 if you write the maker

ROBERTSON *cool-cut* GRINDING WHEELS

Unretouched photo of Robertson Flaring Cup Cool-Cut in action in precision-tool manufacturing plant. (Name of plant on request.)

PRECISION MADE . . . FOR PRECISION PERFORMANCE

PICK UP A Robertson Cool-Cut Grinding Wheel and examine it closely. Note the uniform structure, the fine finish . . . sure signs of high-quality workmanship. Then put the wheel to work.

What your eyes have told you, the finished work will confirm. With Robertson Cool-Cut Wheels you'll produce work more accurately held to size, with the desired finish, and with less effort. Quality such as you find in Robertson wheels is the result of painstaking care in manufacture and 50 years' experience.

The direct result of Robertson's precision methods is precision performance. Many users report: "Cuts grinding time in half" . . . "Production tripled" . . . "Reduces tool-grinding costs 10% to 20%." For all grinding operations—even the tough ones—you'll get top results with Robertson Cool-Cut Wheels. Send for free copy of the booklet "How to Buy Production Time."

ROBERTSON
MANUFACTURING COMPANY
TRENTON 5, NEW JERSEY
Vitified, Resin, Segmental Grinding Wheels

BREVITY—Identify by IEN - 2796 if you write the maker

to measure *tension, traction or weight*

do it accurately with

DILLON DYNAMOMETERS!

COST IS NEGLIGIBLE

Rugged, compact, accurate; DILLON DYNAMOMETERS are simple and easy to handle and read.

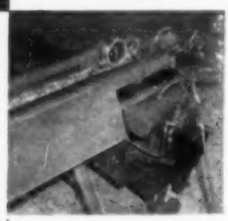
From simple weighing to intricate torque tests, the DILLON DYNAMOMETER is doing the job with the same unfailing accuracy, versatility and rugged dependability which has made it a "by-word" in industry throughout the world. Your own plant becomes your testing laboratory with a DILLON DYNAMOMETER.

Built to take years of hard, daily use, the DILLON will pay for itself many times over.

Light: 8 lbs. 4 ozs. (5" dial model.)

Compact: 8¼" long, 6¼" high, 3" thick.

Accurate: Calibrated in Certified Laboratory Testing Machine.



The DILLON DYNAMOMETER is made in 9 different capacities: 0-500 lbs. up to 0-50,000 lbs. All have max. hand, shackles, safety glass crystal. There are thousands in use today by leading companies all over the world. Write for profusely illustrated Bulletin D-1.

W. C. DILLON & CO., INC.
Precision Instruments for Precision Testing
1421-K S. Circle Avenue • Forest Park, Ill.

BREVITY—Identify by IEN - 2798 if you write the maker

No more cumbersome 2', 3', or 4' manometers to cart around. This new flexible Dwyer Manometer will fit into your pocket or the corner of your service kit. This revolutionary instrument is fabricated of tough, vinyl plastic that will serve for years. The plastic scale is firmly supported between the tubes. Standard ranges from 8 in. to 6 ft. of water or mercury. It is highly accurate, easy to read and convenient. Nothing like it for field work. Write for complete information.

F. W. Dwyer Mfg. Co.
307 S. WESTERN AVE. CHICAGO 12, ILL.

BREVITY—Identify by IEN - 2799 if you write the maker

- ☐ Deburring
- ☐ Surface finishing, lubrication control
- ☐ Removing heat treat scale
- ☐ Preparing surfaces for electroplating
- ☐ Removing and blending grinding lines
- ☐ Finishing threaded sections for fit
- ☐ Improving die manufacturing and maintenance
- ☐ Improving cutting tool life and appearance
- ☐ General maintenance cleaning

The amazing versatility of Hydro-Finish, Pangborn's modified form of impact blasting using an abrasive suspended in liquid, will solve these and other problems for you! By varying abrasive size and hardness, air pressure, distance from work, and ratio of liquid to abrasive, almost any type of precision finishing can be accomplished faster and better!

For example, with Hydro-Finish on your production line, surfaces hold electroplating better . . . paints, rubber and plastics are bonded better because Hydro-Finish forms a "tooth" on your work. Threaded pieces turn more easily. Dies are cleaned better, surfaces are improved, production is speeded, and tools last longer.

Get the facts! Write today for Bulletin 1400A and learn how Hydro-Finish can help you! Address: PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.

Pangborn

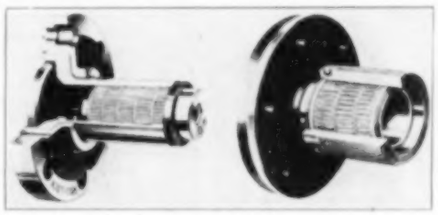
✓ Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

BLAST CLEANS CHEAPER
with the right equipment for every job

BREVITY—Identify by IEN - 2801 if you write the maker

CHUCK . . Roll operated design to grip work inside or outside

Source: SCULLY-JONES & CO.
1936 S. Rockwell St., Chicago 8, Ill.



Made in Germany

Cylindrical rolls are mounted in multiple circles in a retaining cage in this new Roll-Lock internal expanding arbor or external contracting chuck. They ride between an expanding plug on the one hand or a contracting ring on the other in which mating faces are at a slight axial taper with the central axis. The rolls themselves are located at a small angle on the tapered surfaces. As a result they tend to climb or retract when the plug or sleeve is turned in one direction or the other.

The climbing action serves to expand the sleeve in the arbor assembly to grip work from the inside or to contract the inner sleeve in the chuck assembly to grip work inserted in it. Permissible movement is approximately 0.002 in. per inch of diameter. Both assemblies are available for specified work to apply on given machines.

BREVITY—Identify by IEN - 2802 if you write the maker

BALANCING . . Vertical machine, static and dynamic, to 50 pounds

Source: GISHOLT MACHINE CO.
1243-47 E. Washington St., Madison 10, Wis.

Static Model 15V

The work piece to be checked for balance is positioned on the vertical spindle in front of the operator on this new machine. Rotation is started by pressing a button on the operator's right hand side. Readings are then made of amount and angle of unbalance by operating a switch at the right. A second switch selects the meter scale for sensitive or insensitive readings of machine operation.

The machine is available in two heights for the operator to work in either seated or standing position. It takes work ranging from 2 to 20 lb. in one size and from 5 to 50 lb. in another for single-plane static balancing or two-plane dynamic balancing as specified. Maximum work diameter is 18 inches. Model 18V is the designation. Movements as small as 0.0025 in. are accurately indicated. Auxiliary drill spindles, welders and similar units can be added to correct for unbalance.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2803 if you write the maker

BREVITY—Identify by IEN - 2804 if you write the maker

give you useful ideas about Lightweight Schedule 5 Pipe

SAVE MONEY (up to 50%) and conserve Stainless Steel by getting the facts about this newest of Stainless Pipe schedules.

To find out how Schedule 5 gives improved flow conditions *at less cost*, drop us a line. We will gladly put your Schedule 5 Data Sheets in the mail.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Springfield Road, Union, N. J.

BREVITY—Identify by IEN - 2805 if you write the maker

- Removable sides to permit handling large cartons or parts.
- Motor totally enclosed inside conveyor body easily accessible through removable ventilating panel.
- Elevates to desired height with simple hoisting mechanism.
- Driven by means of roller chain to roller bearing equipped gear box.
- Main drive shaft and idler pulley operate on double-sealed ball bearing.
- Standard belt width, 12 inches. Other widths can be furnished to meet your requirements.
- Belt speed, 74 F.P.M.—adjustable if desired.

INDUSTRIAL ENGINEERING & MFG. CO., INC.
BRIMFIELD, INDIANA, U.S.A.

BREVITY—Identify by IEN - 2806 if you write the maker

BREVITY—Identify by IEN - 2807 if you write the maker

When You Buy a
BURGESS-MANNING Acousti-Booth
You Buy a 50%*
Reduction in Noise

When you invest in a Burgess-Manning Acousti-Booth you are purchasing better communications for your office or plant. Good hearing means fewer errors . . . more work accomplished.

Burgess-Manning booths are pleasing in appearance . . . easy to clean and maintain.

Model 601 Wall Booth of wood construction.

Write for Bulletin 103A

Model 210 Floor Booth of wood construction.

* Results of studies by a prominent research organization.

BURGESS-MANNING COMPANY
Architectural Products Division
5970-A Northwest Highway, Chicago 31, Illinois

BREVITY—Identify by IEN - 2808 if you write the maker

ELI LILLY AND COMPANY
use UNISTRUT
METAL FRAMING

in countless plant maintenance jobs!

STOCKED AS SERVICE STORES ITEM, TO:

- Rack Conduit, Cable and Mechanical Piping
- Frame Power Load Centers
- Mount Switches, Meters and Panelboards
- Support Fluorescent Fixtures
- Construct Assembly Tables and Conveyor Supports

Typical Lilly use of UNISTRUT metal framing is for stanchions and trapeze supports to carry high voltage and metering conduits in a tunnel installation.

Write for FREE 78-page Construction Catalog

UNISTRUT PRODUCTS, COMPANY
1013 W. Washington Blvd.
Chicago 7, Illinois Dept. D3

Please send Free 78-page Construction Catalog No. 700

Name.....
Company.....
Address.....
City..... Zone..... State.....

BREVITY—Identify by IEN - 2810 if you write the maker

FASTENING . . Pull type rivet requires access to only one work face

Source: HUCK MFG. CO.
2478-82 Bellevue Ave., Detroit 7, Mich.

Wood is riveted to metal

New head design provides a low height large diameter in the company's line of blind rivets, previously described IEN-1565-50. The new unit presents bearing area ample for fastening thin or soft materials to metal supports. Foil, plywood lining, building-board panels, insulation are examples. The rivet is available in aluminum and in steel, in pull-through and self-plugging types with shanks measuring $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$ inch.

Application is by means of a hand or power tool available from the company. The tool presses against the head after the rivet has been inserted into the work and pulls on the stem so the stem head at the outer end of the shank draws into and expands the shank to form the rivet head on the blind side. At a predetermined pressure the stem end pulls through or breaks off. In the latter case the rivet presents a solid closure in the completed assembly.

BREVITY—Identify by IEN - 2811 if you write the maker

CUTTING . . Lawn mower for gang assembly on a tractor

Source: ROSEMAN MOWER CORP.
2618-22 Crawford St., Evanston, Ill.

Park Challenger

Two drive wheels are mounted at the rear of the company's new lift-type mower. The wheels are set in laterally so the cutting drum overhangs on both sides. The mower frame is made of malleable iron. Mounting on a tractor is in a gang of three, as shown in the illustration, in which one is suspended from each side and the third is towed at the rear.

An assembly of 5 or 7 can be frame mounted for connection to the rear of the tractor. The rubber wheels cushion the drive. Minimized unit widths assist operation in confined locations. The wheels hold the mower down to the ground.

BREVITY—Identify by IEN - 2812 if you write the maker

HARDBOARD . . Instruction book on company's hardboards for construction uses

Masonite Corp.
109-13 W. Washington St., Chicago 2, Ill.

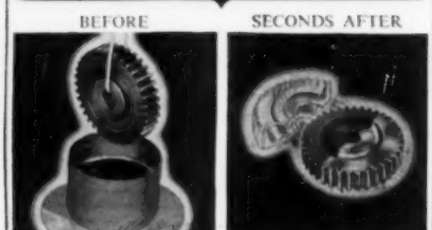
Revised edition of "Masonite Hardboards" is a 24-page book of specifications for these materials in architectural design and construction. It describes types of board, sizes, working and assembly methods, finishing, uses as subfloor and siding, concrete-form lining, condensed specifications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2813 if you write the maker

HOT MELT PLASTIC COATINGS
for GEARS • TOOLS • PRECISION PARTS

BEFORE SECONDS AFTER



Dip Coated • Protected

DIP-PAK Protect vital, expensive tools, gears, and machined parts during storage and shipping with Fidelity's durable, transparent plastic coatings. Merely melt coating briquette, dip parts, cool. Lasts indefinitely. Tough; abrasive, moisture, rust resistant. To remove, slit, peel. Re-melt, re-use coating. Economical, practical, rapid. Protect parts; save money.

Write for Bulletins and Free Samples
Fidelity Chemical Products Corp.
470 Frelinghuysen Avenue, Newark 5, N. J.

BREVITY—Identify by IEN - 2814 if you write the maker

Save Time, Labor, Dollars!

TEST • STUDY • CONTROL
VISCOSITY
As Simply, Quickly and Easily as Taking Temperature Readings

Just a flick of a switch, then read the Brookfield dial, and you have your viscosity determination in centipoises. The whole operation, including cleaning up, usually takes *less than a minute.*

Available in a variety of models suitable for extremely accurate work with both Newtonian and non-Newtonian materials, Brookfield Viscometers are portable and plug in any A.C. outlet — *can be used in Lab, Plant or both.*

Write today for fully illustrated catalog showing Brookfield Viscometers adaptable to any viscosity problem *from less than one to 32,000,000 centipoises.*

BROOKFIELD COUNTER-ROTATING MIXER — Two concentric, oppositely rotating shafts, propeller equipped and driven by two motors, produce an annular flow and up to 48,000 scissor-like cuts/minute. Enable exceptionally fast, effective and efficient laboratory mixing. Not a "stirrer." Write for Brookfield MIXER brochure.

Brookfield ENGINEERING LABORATORIES, INC.
290 Porter St., Stoughton, Mass.

BREVITY—Identify by IEN - 2815 if you write the maker

ELECTRONIC
IBM
Time Control

NO SPECIAL WIRING
for automatic control and complete coordination of CLOCKS and SIGNALS.

IBM Electronic Time Systems* operate and are supervised—to the second—over regular AC lighting wires.

*Electric Time System with Electronic Self-regulation

Write for information today

INTERNATIONAL BUSINESS MACHINES
590 Madison Avenue, New York 22, N. Y.

BREVITY—Identify by IEN - 2816 if you write the maker

Moving or Storing is Rapid, Convenient and Inexpensive with
IRONBOUND SEMI-LIVE SKID PLATFORMS

Ruggedly built with capacities up to 2500 lbs. These units are quickly made mobile with the use of low cost lift jacks . . . One of the methods that Ironbound engineers use to increase production and conserve space at low cost.

SEMI-LIVE SKID WITH BOX TOP
. . . permanently attached or removable. Also available with many other superstructures to "Short-Haul" your products thru production or into storage. Useful in hundreds of spots in every plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

BREVITY—Identify by IEN - 2817 if you write the maker

YOU GET
—Faster Production
—Better Stitching
—at Lower Cost

WITH SPEED-FLO WIRE

These exclusive features tell you why —

1. Neutralized tension — no crawling, loosening or tangling.
2. Produced by "Uni-Draw" process for added strength, accurate size, smooth scale-free surface.
3. Perfect rounded edges, burr and flake-free — no channel or orifice clogging.

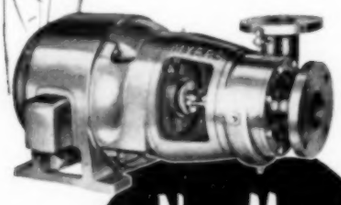
- Ideal for automatic, semi-automatic and hand-fed box stitchers.
- Available in 50, 25, 10 or 5 lb. Coils.

ONCE TRIED — ALWAYS USED!

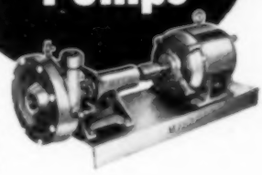
INLAND WIRE PRODUCTS CO.
3963 SOUTH LOWE AVENUE • CHICAGO 9, ILLINOIS

BREVITY—Identify by IEN - 2818 if you write the maker

Smooth, steady and extra-sturdy!



New Myers Centrifugal Pumps



3 BASIC MODELS MEET MANY NEEDS!
Motor-mounted, direct-connected and belt-driven — sizes ½ H.P. to 20 H.P. — for drainage, booster service, air conditioning, and countless other uses. Basic parts interchangeable in all models.

You'll be quick to spot the special advantages built into new Myers Centrifugal Pumps. Their compact, highly-simplified design makes easier installation and servicing self-evident. Pre-lubricated oversize bearings insure smooth operation over longest periods of hardest service. Hydraulically balanced impeller guarantees greatest freedom from thrust and stress — "steady-as-a-rock" performance. Rugged, precision-fitted working parts are fully protected against wear. Here are Centrifugal Pumps with endless industrial applications: types to handle most any liquid at temperatures of 220° F.; in capacities to 650 gpm. at heads up to 280 ft. — pumps you can specify with complete confidence. Write for catalog and name of your distributor.

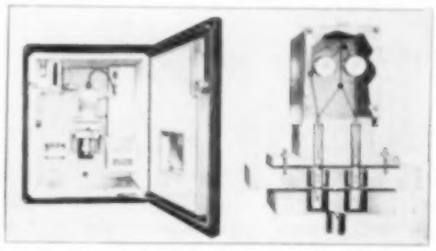
THE F. E. MYERS & BRO. CO.
152 Orange St.
Ashland, Ohio

TAKE OFF YOUR HAT TO MYERS

BREVITY—Identify by IEN - 2820 if you write the maker

TESTING . . Electronic recorder reads carbon dioxide in flue gas

Source: HAYS CORP.
740-44 E. 8th St., Michigan City 16, Ind.



Illustrated details in Bulletin 51-1008

New assembly of the company's electronic recorder, previously described IEN-12824-47, is available for power-plant installation to provide a continuous indication and chart record of carbon dioxide per cent in a flue gas. Operation is on a thermal-conductivity principle. Trade name is Condu-Therm.

Samples of air and of gas to be analyzed are drawn simultaneously into individual passages near the base of the measuring assembly. Air and gas pass through separate saturating chambers to be diluted with water vapor at a constant temperature of 130 deg. F. The saturated air and gas then diffuse into measuring chambers to surround heated resistors from which they conduct heat in proportion to their thermal conductivity.

The resistors are in a Wheatstone bridge circuit and cause unbalance in the circuit on change between the two samples. The bridge circuit connects into the network of the recorder where the unbalance signal is amplified and used to actuate the indicator and recorder mechanisms.

BREVITY—Identify by IEN - 2821 if you write the maker

ELEVATOR . . Electric dumbwaiter for work handling between floors

Source: D. A. MATOT INC.
1531-35 W. Altgeld, Chicago 14, Ill.

For specified use

The company announces general availability of its line of electric dumbwaiters, initially developed for commercial application, to supplement regular elevator equipment in a plant. The units are available for this purpose in a range of car sizes from 20 by 16 by 36 in. to 36 by 36 by 42 inches. Each self-contained assembly can be supplied with the hoist machinery overhead or at the bottom of the hatchway and with a traction cable or a roller chain as the hoisting means.

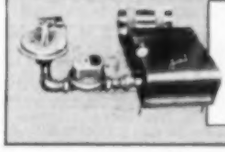
The structure requires no load bearing walls for support. Each assembly includes automatic "call" and "send" equipment to include a controller, limit switches, landing switches, door interlocks. The motor-driven hoist is worm-gear elevator type with a magnetic brake that is spring applied when current is shut off.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2822 if you write the maker

FOR EASIER CONVERSIONS gas THE NEW, COMPLETE FACTORY ASSEMBLED

Janitrol
MODEL SC-05



TWO UNITS, 325,000 TO 750,000 BTU PER HOUR

Among the many design features of the new Janitrol Conversion Burners simpler installation and full accessibility are most important for industrial applications. Optional equipment includes instantaneous flame failure protection with complete control panel to meet the requirements of gas utilities, city, underwriters and insurance companies.

Write today for complete specifications and performance data.

SURFACE COMBUSTION CORPORATION • DEPT. E, TOLEDO, OHIO

BREVITY—Identify by IEN - 2823 if you write the maker

Watch Dog* STARTERS

stop blink of aging lamps

You'll find it's true . . . if you select fluorescent fixtures displaying the General Electric Watch Dog tag or label, you won't be bothered by "lamp-blink" — the on-and-off flicker of a worn-out fluorescent lamp. Watch Dog starters cut such lamps out of the circuit — prevent hurried calls for maintenance men. Watch Dogs last longer than ordinary starters too — up to five or six times. 34 million sold to date. So look for the Watch Dog tag when you select fixtures. Section Q3-342, Construction Materials Division, General Electric Company, Bridgeport 2, Conn.

*Registered Trade-mark of General Electric Company

You can put your confidence in . . .

GENERAL ELECTRIC

BREVITY—Identify by IEN - 2824 if you write the maker

It's B&W ALLMUL
the newest way to cut refractory costs!

B&W Allmul Firebrick takes tough furnace applications in stride. In fact, this new low-priced, electric-fused mullite firebrick creates a new standard of refractory economy by its low first cost and by eliminating the frequent need for furnace relining. Allmul has high hot load strength, high resistance to spalling, good volume stability and a high melting point. Want to know more about this economical fused-mullite refractory? Send for B&W Bulletin R-29.

THE BABCOCK & WILCOX CO.
Refractories Division
85 LIBERTY ST., NEW YORK 6, N. Y.
WORKS: AUGUSTA, GEORGIA

BREVITY—Identify by IEN - 2825 if you write the maker

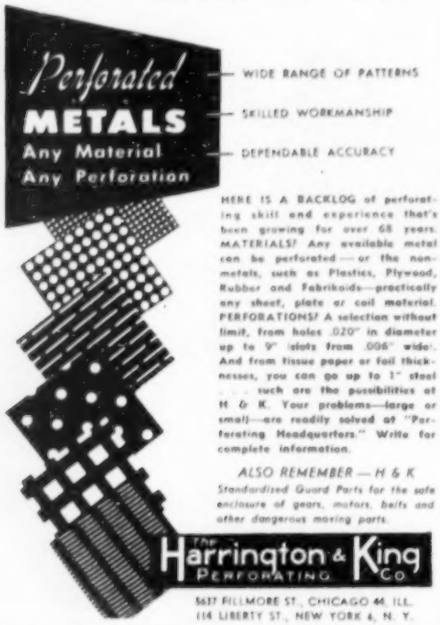
ASK FOR YOUR FREE COPY!

IT'S JAM-PACKED WITH MONEY-SAVING IDEAS

There are dozens of ways the Zip-Lift can help you cut costs with "thru-the-air" handling. The Zip-Lift is easy to install. Hang it up on hook, pin, or trolley, and plug it in. Handles loads up to one ton. Write for Bulletin H20-1. This fully illustrated bulletin suggests many ways you can save time, effort, and money in your plant. Write today.

HARNISCHFEGER CORPORATION
4520 W. NATIONAL AVENUE • MILWAUKEE 14, WISCONSIN

BREVITY—Identify by IEN - 2826 if you write the maker



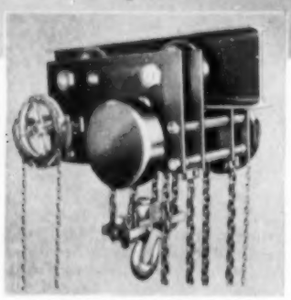
HERE IS A BACKLOG of perforating skill and experience that's been growing for over 68 years. MATERIALS? Any available metal can be perforated — or the non-metals, such as Plastics, Plywood, Rubber and Fabrikoids—practically any sheet, plate or coil material. PERFORATIONS? A selection without limit, from holes .020" in diameter up to 9" slots from .006" wide. And from tissue paper or foil thicknesses, you can go up to 1" steel . . . such are the possibilities at H & K. Your problems—large or small—are readily solved at "Perforating Headquarters." Write for complete information.

ALSO REMEMBER — H & K
Standardized Guard Parts for the safe enclosure of gears, motors, belts and other dangerous moving parts.

The Harrington & King Perforating Co.
5637 FILLMORE ST., CHICAGO 44, ILL.
114 LIBERTY ST., NEW YORK 6, N. Y.

BREVITY—Identify by IEN - 2827 if you write the maker

CHESTER HOISTS CAN STRETCH or SQUEEZE to meet your needs!



LOW HEAD ROOM HOIST

As an example, for existing structures with low head room, or for reducing costs of new construction by permitting lower ceilings, this low head room trolley hoist may solve the problem. Fast service available on these and other types, in sizes from 1½ to 24 tons. Write for complete catalog.

CHESTER HOIST DIVISION
The National Screw & Mfg. Company
Lisbon, Ohio

BREVITY—Identify by IEN - 2828 if you write the maker

NEW THREAD COMPOUND
Licks Stud Freezing Even at 1800°F.!

SAFE for all high temperature applications!
SAFE for Stainless and Alloy Steels, too, will not pit or corrode!
IDEAL as a cutting compound to prevent galling of Stainless Steel!

Make a convincing test of Fel-Pro C-5 "Hi-Temp" Thread Compound at our expense. Then you can be sure that C-5 will do everything we say it will do. See how it cuts heater dismantling time—how it cuts costly stud breakage and eliminates pitting. Then you will standardize on C-5 just as have some of the nation's largest refineries, utilities and process industries. Write for FREE Sample and data sheet TODAY!

FREE TEST SAMPLE!
Send for YOURS TODAY

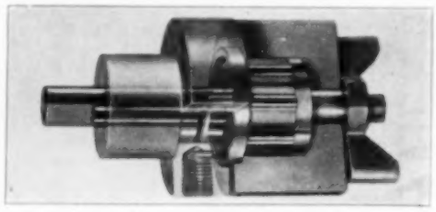
FEL-PRO C-5 "HI-TEMP" THREAD COMPOUND

FELT PRODUCTS MFG. CO.
1523 CARROLL AVENUE • CHICAGO 7, ILLINOIS

BREVITY—Identify by IEN - 2829 if you write the maker

PUMP . . Roller vane design for lubricants, fuel oil, to 1½ gpm.

Source: MILWAUKEE HYDROPOWER INC.
3445-49 N. 35th St., Milwaukee 16, Wis.



Rollers are hydraulically balanced

Steel rollers mounted in radial slots in the rotor of this new Magna-Mite pump act as vanes to produce the pumping action. They draw fluid in at one end of the rotor assembly and deliver it from the same end of the rotor but diametrically opposite to the intake.

Speed range is 300 to 3,600 rpm. Overall capacity is ¼ to 1½ gpm. Overall dimensions are 6 in. in length by 2¾ in. in greatest diameter. Exterior is machined and can be supplied with a flange or angle bracket if simple hole mounting is not suitable for the intended application.

BREVITY—Identify by IEN - 2830 if you write the maker

HEAT TREATING . . Hydraulic press holds work in die for quenching

Source: AMERICAN STEEL FOUNDRIES
1150-A Tennessee Ave., Cincinnati 29, Ohio

New application of the company's 2,500-ton hydraulic holding press has been developed to hold hot forgings in a die under sufficient pressure to prevent deformation when the forging is quenched to improve its grain structure. The press in this particular application provides an opening that measures 39 in. between the columns, 32 in. maximum from platen to head with a 15-in. stroke. Advance is at 10 ipm. with return at 20 ipm. by gravity in the base-enclosed moving ram. Overall height is 11 feet. Pressure rating is 2,500 ton.

BREVITY—Identify by IEN - 2831 if you write the maker

FASTENINGS . . Standards for screw threads includes latest revisions in Unified thread series

American Standards Association
70 E. 45th St., Room 2845, New York 17, N. Y.

Third Edition is announced for the American Standard ASA B 1.1-1949 on Unified and American screw threads. The 100-page book, list price $3, includes a number of revisions based on international agreement on unified thread sizes. It consists of tables and drawings on basic thread dimensions, tolerances.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2832 if you write the maker

DOUBLE-V LEATHER LINK BELTING DOES NOT STRETCH

For serpentine drives and for use with idlers, G&K DOUBLE-V Leather Link Belting has outperformed belts of other materials. The leather segments are beveled on *both* sides to provide a DOUBLE-V which conforms to standard V-belt sheaves. The link construction does not stretch. The DOUBLE-V feature also prolongs the useful life of the belt, for on straight drives it can be turned over and becomes the equivalent of a new belt.

Get more production-power with G&K Leather V-Belting! Write today for fact-full bulletin — it's free.

G and K — second century — GRATON AND KNIGHT

GRATON & KNIGHT COMPANY, Worcester 4, Mass.

BREVITY—Identify by IEN - 2833 if you write the maker

SEAMLESS F.O.S. Industrial Tape

The original pressure-sensitive tape made in hundreds of widths, weights, constructions for a host of time-saving applications.

● Take a quick glance at the operations in which pressure-sensitive tape techniques are saving time and money. Seamless F. O. S. Tape is strong, tenacious, easy to apply, yet easy to remove. Special construction to resist staining, high temperature, moisture, corrosion and other severe conditions. Write for prices, free samples, authoritative advice and suggestions.

Do you have a defense contract requiring tape to meet government specifications? We can help you. Wire details collect for 24-hour reply.

OTHER USES
MASKING · SOUND-PROOFING · HOLDING
PACKAGING · BACKING · HINGING
PROTECTING · REINFORCING · IDENTIFYING
SPLICING · INSULATING · STENCILLING

INDUSTRIAL TAPE DIVISION
THE SEAMLESS RUBBER COMPANY
NEW HAVEN 3, CONN., U. S. A.

BREVITY—Identify by IEN - 2834 if you write the maker

Whatever you need in electrical specialties, it will pay *you* to take advantage of Soreng's priceless experience and extensive facilities.

For more than 25 years Soreng Manufacturing Corporation has designed, engineered and built solenoids, switches of all types, terminals, connectors, and other electrical components. Our facilities include two modern plants, our own toolroom, plating department, research laboratory and model-making department. In addition, we are well staffed in design, engineering, estimating and cost accounting.

Through the years, we have been called upon to solve many unusual and difficult problems, by many of America's leading manufacturers. We will welcome the opportunity of doing the same for *you!* For more information, write Dept. A23.

Specialists in Electrical Specialties and America's Largest Manufacturer of Solenoids

SORENG MANUFACTURING CORPORATION
9555 Eden Ave., Schiller Park, Ill. (Chicago Suburb)
Plants: Schiller Park, Ill. • Fremont, Ohio

▼ BREVITY—Identify by IEN - 2836 if you write the maker ▼

PROTECT

your expensive dies and machine parts

USE

ACME

RED OR BLUE LABEL

PRECISION

DOWEL PINS

Acme Dowel Pins break before bending or mushrooming—thus saving expensive equipment from ruin through misalignment. Order standard sizes from stock. Attractive prices on special sizes and large quantities.

WRITE FOR DESCRIPTIVE CIRCULAR

Acme Industrial Company

Makers of Standardized Jig & Fixture Bushings

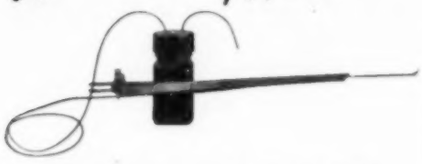
215 N. Loftin Street • Chicago 7, Illinois

THE SERVICE SHOP TO INDUSTRY FOR MORE THAN 25 YEARS

▼ BREVITY—Identify by IEN - 2837 if you write the maker ▼

ARCCO *NEVER-DRY* **PEN**

Writes for Months



REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clean and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

Weight of pen is constant at all times thus insuring extreme accuracy. No slopping or dripping. Stainless steel construction—no corrosion. When ordering, specify make and type of recording instrument.

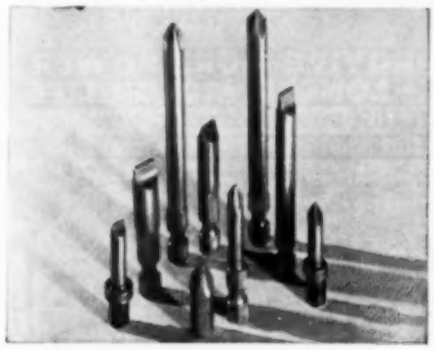
AMERICAN RECORDING CHART CO.

3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

SEND FOR BULLETIN NO. 115

▼ BREVITY—Identify by IEN - 2838 if you write the maker ▼



You save replacement time with HOMMEL power screwdriver bits

Specially selected alloy steel and proper heat treating have given Hommel bits the hardness and toughness required for maximum service without replacement. A complete line for air and electric power screwdrivers is available . . . consisting of ¼ hex drive and threaded shank bits for slotted, Phillips, Frearson or Reed and Prince screws. Write now for catalog to Dept. IEN.

Since 1906 **HOMMEL**

Ludwig Hommel & Co., 72 First Ave., Pittsburgh 22, Pa.

▼ BREVITY—Identify by IEN - 2839 if you write the maker ▼

INDEXING . . Gear operated table to carry work for series of operations

Source: TURNER BROTHERS INC.
2623-27 Milton Road, Ferndale 20, Mich.

For accurate positioning

The mechanism of this new Hautau-Turndex table employs an initial worm-and-gear drive, a sector gear controlled by a set of cams, an idler shaft carrying gears that transmit to a final gear located in the center of the table top. The assembly is able to move a heavy load and decelerate it smoothly with 0.6 sec. of indexing time. The cams govern the accelerating and decelerating action. One horsepower is sufficient to operate a 24-in. unit with an 800-lb. work load. Standard assemblies are available with 2 to 26 stations in any equal divisions adding up to 360 degrees of table rotation.

▼ BREVITY—Identify by IEN - 2840 if you write the maker ▼

INSULATING . . Ceramic unit for use in thermocouple assemblies

Source: SAXONBURG POTTERIES
51 Della St., Saxonburg, Pa.

Range of sizes and shapes

The company has informed us that the ceramic units previously described IEN-12316-51 for use in electric heating appliances are suited also, particularly well, as thermocouple insulators in which the thermocouples are to operate in temperatures to 2,400 deg. F. Material in each bead-type or sleeve-type unit is known as ThermO Body.

▼ BREVITY—Identify by IEN - 2841 if you write the maker ▼

VIBRATING . . Pneumatic unit promotes flow from bin, hopper, chute

Source: MARTIN ENGINEERING CO.
704 Rosien St., Kewanee 2, Ill.

Ball weighs a pound

Steel ball, measuring 2 in. in diameter, is driven by an air jet to ride around a race in the housing of this new Type DV-51 Vibrolator. The resulting vibration is imparted to any structure on which the housing is mounted. The ball is self-starting, rolls without noise, requires no lubrication.

Typical materials for which the unit assists in feed from hoppers and bins and through chutes include sand, gravel, chemicals, food products, cement, grain, coal. The new unit is a larger size than the one previously described IEN-9778-45.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2842 if you write the maker ▼

"Solved our marking problem!" say users everywhere

"The *MULTISTAMP* Hand Stamp Stencil Duplicator is the best thing we've seen for shipping tag and label addressing" . . . "for marking boxes, cartons, packages." "Quick, clean, accurate, easy-to-use. Prints 1000 or more clear, sharp copies from *one stencil . . one inking.* Just type, write, trace or draw on low-cost stencil, snap in position and print . . like using a rubber stamp. Non-mechanical, of non-corrosive metal. No moving parts, has replaceable ink pads. 8 complete outfits, $9.50 to $99.50.

IT PRINTS ON
POSTCARDS · SHIPPING TAGS
BOXES · CARTONS
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At Your Office or Shipping Room Supply Dealer

MULTISTAMP
STENCIL DUPLICATOR

▼ BREVITY—Identify by IEN - 2843 if you write the maker ▼

Cut Price Shower Baths . .

FOR MACHINERY

Thanks to New Application of FULLERGRIPT Brush Strips

In many industries machine parts become coated with processing materials, which must be cleaned from the parts before start of the next cycle. For example, take the panels in tanneries to which hides are pasted. One manufacturer of a machine to clean these panels, The Aulson Tanning Machinery Co., Salem, Mass., consulted with Fullergript engineers in working out an intensified brushing action that also reduces brush wear. Similar consultation about use of Fullergript brush strips is available without obligation to you. Why not write and tell us your problem—today?

At home... in business, too

FULLER BRUSH

FULLERGRIPT

THE FULLER BRUSH COMPANY
INDUSTRIAL DIV., 2583 MAIN ST., HARTFORD 2, CONN.

▼ BREVITY—Identify by IEN - 2844 if you write the maker ▼

ACCURATE

Low Cost Temperature Control

for Jacket Water and Lube Oil

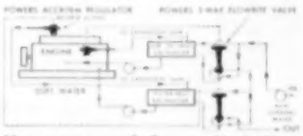
POWERS

Compressed Air or Water Operated

ACCRITEM REGULATOR

IMPORTANT ADVANTAGES

- ***Adjustable Sensitivity*** and over-heat protection.
- ***Calibrated Dial*** temperature adjustment.
- ***Simple, Rugged Construction*** withstands vibration and insures many years of reliable service.
- ***Temperature Ranges*** 50 to 250° F. and 150 to 350° F.
- ***Easy to Install.*** Requires 15 lb. supply of compressed air or water for its operation.
- ***Small Size***—regulator head is only 2⅝" x 3⅝", sensitive bulb is 12" long with ½" I.P.S. connection.



Only a few of many possible applications

Unsurpassed for reliability and power to operate large or small size 3-way or 2-way diaphragm valves for accurate control of jacket water and lube oil cooling temperatures.

POWERS FLOWRITE DIAPHRAGM VALVES controlled by Powers ACCRITEM Regulators provide an unbeatable combination for better control and lower maintenance.

Write for Bulletin 316

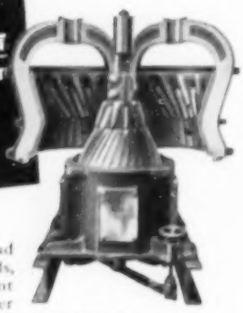
THE POWERS REGULATOR CO.

3437 Oakton Street, Skokie, Illinois • Offices in Over 50 Cities

60 YEARS OF WATER TEMPERATURE CONTROL

BREVITY—identify by IEN - 2846 if you write the maker

When It's Grinding or Pulverizing STURTEVANT EQUIPMENT DOES THE JOB FAST!



Whether you grind soft or hard materials, there is a Sturtevant Grinder or Crusher exactly suited to your requirements.

Tough and rugged, Sturtevant Equipment has the built-in stamina to stand up under continuous operation. Most of this equipment has the "open door" accessibility which makes cleaning easy.

Look into Sturtevant Grinders and Crushers for your applications. These machines will give you the exact mesh you want . . . cut your costs by increasing production. Write today.

Sturtevant Mill Company
113 Clayton Street, Boston 22, Mass.

BREVITY—identify by IEN - 2847 if you write the maker

Directs Light Exactly as Needed as Easily as Pointing your Finger

FOSTORIA **LOCALITES** for Machine Tools, Assembly and Inspection Benches

MODEL 099-PX-412
Overall length 55½". Three instantly adjustable joints. Reflector accommodates 100 watt or any A-19 or A-21 medium screw base lamp.

$13.28 EACH in pkg. of 3. Single Unit $16.60 ea.

- **All Wiring Fully Enclosed** — completely protected from wear or insulation damage from oils and fumes.
- **Adjusta-tension Joints** — tension easily adjusted for freedom of arm movement to suit worker and job.
- **Universal Base** — mounts on outlet box or directly on machine or bench. Toggle switch included.
- **Baked Enamel Finish** — exterior, Vista Green. Reflector interior, high temperature White.

LOCALITE fostoria for Light ON the Job

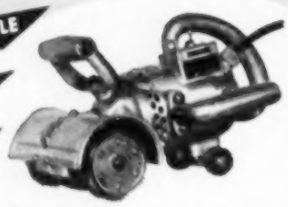
WRITE FOR COMPLETE CATALOG of Localite models with various type reflectors, arms and bases for every industrial use.

THE FOSTORIA PRESSED STEEL CORPORATION
FOSTORIA, OHIO

Localites are available through electrical wholesalers everywhere.

BREVITY—identify by IEN - 2848 if you write the maker

ZIP OFF SCALE RUST PAINT with



AURAND CLEANING TOOLS

AURAND rotary chipping action quickly, easily, thoroughly removes scale, paint, rust, and other accumulation from any hard surface. Renewable cutter heads and fool-proof cutting depth adjustment allow the unskilled operator to produce perfectly clean surfaces. Available in electric or pneumatic models. Write today for further information on cleaning your iron, steel, brick, concrete, and other hard surfaces.

Get the time and money-saving facts

GET THE TIME AND MONEY-SAVING FACTS. WRITE TODAY TO DEPT. 649

AURAND MFG. & EQUIP. CO.
2843 Colerain Avenue • CINCINNATI, OHIO

BREVITY—identify by IEN - 2849 if you write the maker

PACKAGING . . Bundling machines to apply self-adhesive reinforced tape

Source: GUIDE CO.
152 Guide Bldg., Canfield, Ohio

Model CG $8,800. Model GW $4,500

Model CG, to the left in the illustration, and Model GW, to the right, are two new packaging machines for power application of self-adhesive reinforced tape. The first one is intended for structural shapes, pipe, lumber and other long materials. The second wraps one or two lines of the self-adhesive tape around cartons and assemblies of rectangular containers. Each machine starts the tape, wraps it as required, cuts it off at completion of the wrap.

BREVITY—identify by IEN - 2850 if you write the maker

CONNECTOR . . Plug and lock plate to fit standard electric receptacle

Source: HOPAX ELECTRIC INC.
545-49 Greenwich St., New York 13, N. Y.

For secure circuit connection

Lock Plug is a new electric connector for application on an extension cord to plug into a standard electric outlet. The plug carries a ring that rotates through a small arc to engage lugs on a locking plate that applies on the receptacle. When this ring is turned with the plug in position it engages the plate so it cannot be pulled out.

BREVITY—identify by IEN - 2851 if you write the maker

ELECTRONICS . . Basic radio circuits are stressed in textbook on radio fundamentals

John Wiley & Sons, Inc.
440 Fourth Ave., New York 16, N. Y.

Complete revision over the 1945 edition is announced for the book, "Principles of Radio," by Henney and Richardson. The 664-page Sixth Edition, list price $5.50, continues to place emphasis on basic radio circuits. It covers subjects such as dc. circuits, ac. circuits, magnetism, meters, inductance, capacitance, vacuum tubes, rectifiers, oscillators, amplifiers, frequency modulation, television, radar.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BREVITY—identify by IEN - 2852 if you write the maker

NEW JEWELOX FIBRE BACKED DISCS

for low cost metal grinding

Because Jewelox Fibre Backed Discs grind better, last longer — they reduce grinding costs to a minimum. Jewelox Fibre Backed Discs will not curl or warp and resin bonding gives them outstanding durability.

Test Jewelox Fibre Backed Discs yourself. Prove to your own satisfaction that they are tops for use on high-speed pneumatic or electric grinders. Order Jewelox Fibre Backed Discs from your distributor or write Abrasive Products, Inc., 541 Pearl St., South Braintree 85, Mass.

SHARPER, TOUGHER

Jewel COATED Abrasives

CUT COSTS!

BREVITY—identify by IEN - 2853 if you write the maker

BE READY FOR WARM WEATHER
IMPROVE WORKING CONDITIONS
with a
ROBINSON "SULKEY" TYPE COOLING FAN

Put a Robinson "sulkey" type cooling fan right on the job. Roll it into position on its truck type wheels, tilt it to direct the air right where you want it.

Built in sizes from 18" to 36".

Ask for bulletin No. 8000

Place your cooling problems in our hands.

ROBINSON VENTILATING COMPANY
Manufacturers of Fans and Ventilating Machinery for over fifty years.
1948 Railroad Street
ZELIENOPLE PENNSYLVANIA

BREVITY—identify by IEN - 2854 if you write the maker

JABSCO SELF PRIMING **PUMPS**

Patented and Patents Pending

the pump with the DUPONT NEOPRENE impeller (oil resistant)

BRONZE, STAINLESS STEEL & IRON CONSTRUCTION
—CAPACITY TO 50 GALLONS PER MINUTE

1. **MORE CAPACITY**—for its weight, size and price.
2. **SELF-PRIMING**—starts instantly with high suction lift.
3. **ONE MOVING PART**—tough, long-lived.
4. **GEARLESS**—impeller outlasts metal gears.
5. **TROUBLE FREE**—simple construction.
6. **ECONOMICAL**—low cost—low maintenance.

LIQUID TRANSFER AND CIRCULATING FOR ALL INDUSTRIES

JABSCO PUMP COMPANY
2031 N. Lincoln Street • Burbank, California

BREVITY—identify by IEN - 2855 if you write the maker

Foredom FLEXIBLE SHAFT MACHINES
PROVIDE MORE POWER —LONGER MOTOR LIFE
BECAUSE UNLIKE conventional type grinders MOTOR is NOT DWARFED to fit the hand!

YOU GET more precise control and unobstructed view of your work because of FOREDOM'S small-as-a-pencil handpiece which provides marvelous, effort-less operating ease.

For Every "SMALL-WORK" Job of GRINDING and FINISHING

2-WAY USEABILITY — Hang it up on any convenient hook or suspend it from a shoulder strap.

ALL 3 DEPARTMENTS — Maintenance, Production, Tooling, can make profitable use of FOREDOMS. At their low cost, you can afford to spot them liberally about the plant for emergency and every day use.

Other heavier duty models, bench and hang-up types, with your choice of 5 quickly-interchangeable handpiece types at proportionately modest prices.

MODEL 100 $17.75 illustrated
6-step foot rheostat $5.25 extra. Your choice of 3-32" or ⅛" collets. Add 85¢ if you want both.

THE SECRET'S IN THE PENCIL SIZE HANDPIECE

★ *Quality Tested Since 1922* ★

See Your Industrial Supply Distributor—If He Cannot Supply You Write to Us

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FOREDOM ELEC. CO., Dept. N-4152
27 Park Place New York 7, N. Y.
Send your catalog No. N-4152.

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Address
City & Zone State

BREVITY—Identify by IEN - 2856 if you write the maker

INSURE Proven Quality with JONES PLUGS AND SOCKETS

Jones Series 300 illustrated. Small Plugs & Sockets for 1001 Uses. Cap or panel mounting.

P-306-CCT Plug, Cable Clamp in Cap.

S-306-AB Socket with Angle Brackets.

- Knife-switch socket contacts phosphor bronze, cadmium plated.
- Bar type Plug contacts brass, cadmium plated, with cross section of 5/32" by 3/64".
- Insulation molded bakelite.
- All Plugs and Sockets polarized.
- Metal Caps, with formed fibre linings.
- Made in two to 33 contacts.
- For 45 volts, 5 amperes. Efficient at much higher ratings where circuit characteristics permit.

Ask for Jones Catalog No. 18 showing complete line of Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write or wire today.

Send for complete data on this new basic improvement!

Jones HOWARD B. JONES DIVISION CINCH MANUFACTURING CORPORATION CHICAGO 24, ILLINOIS SUBSIDIARY OF UNITED-CARR FASTENER CORP.

BREVITY—Identify by IEN - 2857 if you write the maker

PORTABLE GRINDING COSTS GO DOWN WITH...

NORTON WHEELS That Hug That Work!

FASTER GRINDING, LONGER WHEEL LIFE, AND LESS OPERATOR FATIGUE give you the benefits of more metal ground per man-hour and lower wheel cost when you use Norton portable grinding wheels. *They hug that work!* Less vibration . . . less bounce.

This more continuous contact with the work comes from *controlled uniformity* and *built-in balance* which Norton production engineers have recently developed to a degree never before attained.

Ask your nearby Norton distributor about new, improved Norton portable grinding wheels. He's listed under "Grinding Wheels" in your classified telephone directory. Or write direct to Norton Company, Worcester 6, Mass. Distributors in all principal cities.

NORTON ABRASIVES

Making better products to make other products better

BREVITY—Identify by IEN - 2859 if you write the maker

TRUCK . . Motor driven tractor carries operator in standing position

Source: MARKET FORCE CO. 23-27 Garvey St., Everett 49, Mass.

Ball-bearing wheels

New low platform has been added at the rear of the company's Load-Mobile tractor, previously described IEN-295-51, to carry the operator in standing position. At the same time the steering wheel has been moved back to central location and a coupler has been added at the rear of the platform. The unit is designed for service in which the operator must get on and off frequently. The unit will haul a 5-ton load at about 3 mph. It takes a 340 amp. hr. battery.

BREVITY—Identify by IEN - 2860 if you write the maker

TESTING . . Liquid dye and developer reveals surface flaws in metal parts

Source: TURCO PRODUCTS INC. Terminal Annex 2649-A, Los Angeles 54, Calif.

Ask for copy of Bulletin 500

New formula has been developed by the company to provide a non-hazardous, non-toxic liquid to apply in the Dy-Chek process for flaw exposure, previously described IEN-7170-59. Three materials are employed, one to penetrate, one to develop and one to remove any dye that remains after the test has been completed. A quart of the red penetrant and one gallon each of the developer and dye remover list at $25.

Application starts by cleaning the surface. This is followed by spreading the dye and then removing it with a second application of the cleaner. Finally the white developer is spread over the surface. Any flaws will show at once as red markings appear where the dye has penetrated and has not been removed by the surface-cleaning operation. These markings appear on the white background in clear, sharp contrast.

BREVITY—Identify by IEN - 2861 if you write the maker

PROTECTING . . Plastic coated glove is flexible, oil, alkali and acid proof

Source: HOUGHTON LABORATORIES INC. 888-92 N. 4th St., Dept. 3-A, Olean, N. Y.

Hyflex is a new canvas glove coated in a process developed by the company with a tough abrasion resistant vinyl plastic. The glove remains flexible in temperature between freezing and 200 deg. F. It is particularly suited for operations such as electroplating, asphalt handling, chemical processing, construction, materials handling and operations involving contact with oil. Minimum order is one dozen at a list of $8.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BREVITY—Identify by IEN - 2862 if you write the maker

EVERYTHING YOU WANT IN A BRAKE MOTOR!

The Elliott Crocker-Wheeler Brake

is in a class by itself for fast stopping action, long wear and compactness. It can be mounted on double shaft extension NEMA standard D flange or C face motors without the need of mounting brackets or adaptors. With a dependable, smooth running Elliott C-W motor, it's a unit that will give you maximum service and top-notch performance.

SEND FOR THIS BULLETIN

It gives you all the details of construction, application and complete data as to sizes and motor frames. Ask for Brake Motor Bulletin SL-610-1 and address Elliott Co., Dept. N, Jeannette, Pa.

CW-24

ELLIOTT COMPANY CROCKER-WHEELER DIVISION . . . AMPERE, N. J.

General Offices & Main Plant Jeannette, Pa.

Branch Offices and Representatives in Principal Cities. Elliott Approved Service Shops Cover the Country

BREVITY—Identify by IEN - 2863 if you write the maker

Thor ½" DRILLS ...via Graybar

Heavy-duty Silver Line model virtually stall-proof . . . weighs only 8 lbs.

An extra-powerful AC/DC motor linked to a super strong gear train makes the Thor ½" portable drill stall-free under even the heaviest pressure. Its 11" over-all length and light weight speeds close-quarter jobs and permits easy, one-hand operation.

Built for hard wear, Thor drills have 8 over-size, precision ball bearings plus die-cast housings, center plates and armature supports — moving parts can't help but stay in permanent alignment. In addition to drills, Graybar distributes the complete line of famous Thor tools — tappers, impact wrenches, screw drivers, nut setters, saws, hammers, sanders, nibblers, and grinders. You can get complete information on any of them from your local Graybar Representative. *Graybar Electric Co., Inc., 420 Lexington Avenue, New York 17, N. Y.* 292-123

Call Graybar *first* for . . . Everything Electrical Graybar

BREVITY—Identify by IEN - 2864 if you write the maker

Globe Ramp Eliminator

Keeps Plant Traffic on the Level

A Globe Ramp Eliminator averts the dangers of makeshift gangplanks and provides safe, dependable, and fast vertical transportation between levels. This means less risk of damage to materials or injuries to workers.

With a Globe Ramp Eliminator, movement of materials is always across a sturdy, safe level platform instead of up or down steep ramps or temporary makeshifts. This adds up to safer, faster, easier, and cheaper handling of goods.

Got a Lifting Problem?

GLOBE *has the answer*

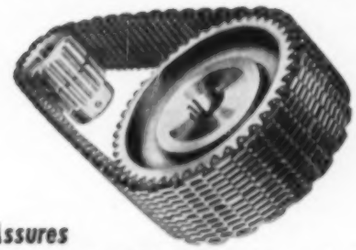
Muscle is the world's most wasteful lifting power. A Globe OhLIFT will do it cheaper and better.

For helpful information on Self Leveling Ramps, Machine Loading Lifts, Industrial Truck Service Lifts, Production Lifts, etc., write for bulletin IE-313.

GLOBE HOIST COMPANY • 1000 E. Mermaid Lane, Philadelphia 18, Pa.
(Factories at Des Moines, Iowa & Philadelphia, Pa.)

BREVITY—Identify by IEN - 2865 if you write the maker

WHITNEY SILENT CHAIN



Assures Efficient, Positive Power Transmission

Regardless of your drive problems, Whitney Silent Chain will meet your particular requirements. These tough, rugged chains deliver full power without friction loss or slippage. Their positive grip helps maintain product uniformity. They withstand shock loads without breakage . . . give long life and cut maintenance to the bone. And remember Whitney Cut Tooth Sprockets complete the combination assuring efficient power transmission. It will pay you to *standardize* on Whitney. Write for complete information.

WHITNEY CHAIN COMPANY

202 Hamilton Street Hartford 2, Connecticut

BREVITY—Identify by IEN - 2866 if you write the maker

Safe hands cut costs 5 ways

2 of many types, functionally designed for marking hands:

We have the case records of hundreds of on-the-job tests, handling sharp, abrasive and slippery materials, with and without the presence of heat, oils, greases, acids, caustics, solvents and degreasants—where proper selection of work gloves has resulted in:

1: Fewer lost-time accidents
2: Faster, surer work handling
3: Less spoilage
4: Improved job attitude
5: And 40% to 70% savings in usual glove costs.

Natural rubber treaded

There's a correct glove for every job. Smart management makes it available.

Edmont Edmont Manufacturing Company 1226 Walnut Street, Coshocton, Ohio

World's largest maker of coated industrial gloves

BREVITY—Identify by IEN - 2867 if you write the maker

where ELSE can you use PRINT-AD STRING "the TIE that TALKS"?

Tie up your products with Print Ad String, and wherever they go they tell people your name or slogan, they give directions, they measure footage, they provide grade markings—they tell whatever you want told . . . and tell it in a novel, colorful way.

Here's a tremendously strong COTTON tie—in thicknesses down to .003, widths down to ¼", in any color or combination of colors you want—a tie that won't mar or dent the edges of articles tied in it—won't slip in the knot—won't stretch—and adds a smart touch to your package.

Mighty useful for manufacturing short cuts, too. Be informed! Mail coupon now for FREE booklet full of valuable ideas!

BETTER TYING

Holds parts firmly for assembly, cutting, drilling . . . Holds parts in finished assemblies . . . Measures running footage . . . Gives directions, grade marks, identifications.

BIG HELP IN THE PLANT

Good looking all cotton tie! . . . Flat, won't mar or dent edges of boxes or merchandise . . . Won't slip in the knot . . . Non-stretch, great strength . . . Also used as rip-cord opener, from candy bars to survival kits . . . Ties anything!

MAIL FOR FREE IDEA BOOK!

Dept. B - Chicago Printed String Co.
2300 Logan Blvd., Chicago 47, Ill.

GENTLEMEN: Without cost or obligation send me your FREE Idea Book.

My Name _____
Title _____
Company _____
Address _____
City _____ State _____

BREVITY—Identify by IEN - 2869 if you write the maker

METER . . Indicates flow rate in a pipe line, stainless steel float

Source: FISCHER & PORTER CO.
5580 County Line Road, Hatboro, Pa.

Ask for Bulletin 10529

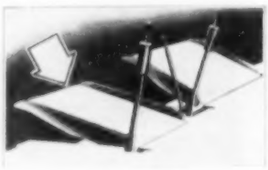
Predictable trade names a new design of float now available in the company's Flowrater line of area flow meters. This float is employed with a percentage scale and is identified by a factor tag to permit meter delivery from stock for a range of applications. It also permits meter change to meet changing conditions in the field. Spare parts can be supplied from stock.

The illustration shows the recently improved Figure-735 meter which is based upon a pressed-steel structure and a metering tube enclosed within the housing and safety-glass panels. Universal end fittings permit horizontal pipe connection at any angle. Stuffing boxes provide for retention of any fluid. Adjustment is from the outside. The meter can be cleaned after removing its end plug. Pipe connections range from ¼ to 1½ inches. Flow rating is maximum in the smallest unit at 0.057 gpm. It is 82½ gpm. in the largest.

BREVITY—Identify by IEN - 2870 if you write the maker

ELEVATOR . . Hand operated ramp raises and lowers in shipping platform

Source: KARL A. HERMAN CO.
410-14 Fuller Ave., N. E., Grand Rapids 3, Mich.



Rates 5 ton

Model 48 is a new addition to the Rite-Hite line of adjustable loading ramps. It measures 42 in. in width by 48 in. in length and has an 18-in. vertical adjustment. The ramp is hinged in a shipping platform at its rear edge. It is counterbalanced to hold in "up" position. The balancing weight assures positive contact with the floor of a truck when the ramp is lowered to ride on it. The curved lip design compensates for varying height differences between platform and truck.

BREVITY—Identify by IEN - 2871 if you write the maker

ALUMINUM . . Uses as powder the subject of new 84-page technical manual

Reynolds Metals Co.
2502 S. 3rd St., Louisville 1, Ky.

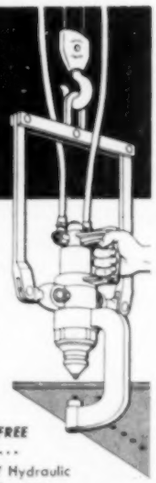
Production methods, characteristics, testing, storing are described in new manual, "Aluminum Powders and Pastes," available on letterhead request to engineers, technical men and executives. Pictures and text also describe applications in paints, pyrotechnics, heat reactions, chemical processing, powder metallurgy, surgery, and special uses such as signaling on water, heat-reflective fabrics.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2872 if you write the maker

Here's the Answer to Low Cost Hole Piercing

DANLY



PORTABLE HYDRAULIC PIERCING UNITS

- ✔ Cylinder capacity 12½ tons!
- ✔ Built-in hydraulic stripping action
- ✔ Compact for portability and flexibility of application

SEND FOR THIS FREE BULLETIN NOW . . .

See how DANLY Hydraulic Metalworking Equipment Solves your specific problems!

DANLY MACHINE SPECIALTIES, INC.
2140 South Laramie Avenue
Chicago 50, Illinois

BREVITY—Identify by IEN - 2873 if you write the maker

THE **spring** IS THE THING

AJAX SPIRAL WOUND GASKETS

The Gaskets with resilience "built-in," to make positive, lasting seals. Made for all types of pipe flanges, pressure vessels, and for boiler manholes, handholes, tube caps, water walls, economizers and other boiler accessories. A trial will end your gasket troubles.

OTHER STANDARD INDUSTRIAL GASKETS

In addition, we offer a complete line of corrugated metal and metal-asbestos gaskets, solid metal, serrated and profile types. Sold universally through Industrial Distributors. Ask your Supply House or write

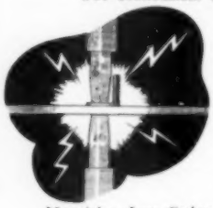
UNITED STATES GASKET CO.
658 N. 10th Street Camden 1, N. J.

Leading Fabricators of "TEFLON" for the Chemical, Process and Electronic Industries.

BREVITY—Identify by IEN - 2874 if you write the maker

OHIO WELD SCREWS

For economical Spot Welding



Ohio SS Spotweld Screws

Thread Sizes, No. 6-32 to ⅜-24

Materials:—Low Carbon Steel and Brass

For dependable Projection Welding

Ohio GW and HW Weld Screws

Thread Sizes: No. 6-32 to ½-20

Materials:— Low Carbon Steel and Brass

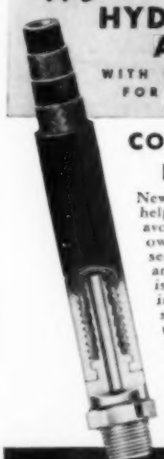
For samples and list of stock sizes, send to

THE OHIO NUT & BOLT COMPANY
604 FRONT ST., BEREA, OHIO

BREVITY—Identify by IEN - 2875 if you write the maker

Make your own **HYDRAULIC HOSE ASSEMBLIES**

WITH PERMANENT COUPLINGS FOR GREATER PRESSURES



COUPLE BOTH ENDS IN 4 MINUTES

New revolutionary low-cost machine helps you *cut production costs*—and avoid delays—by fabricating your own permanent hydraulic hose assemblies! Does complete assembly and swaging job. Produces a finished hose, coupled at both ends, in 4 minutes. The Aro 2-piece steel coupling used in the process takes greater pressure, prevents breathing, resists corrosion, gives you a BETTER hose assembly than you've ever seen before! Write for bulletin. Pyles Industries, Inc., 8926 Second Ave., Detroit 2, Mich. Subsidiary of The Aro Equipment Corp.

PYLES HOSE COUPLING MACHINE

BREVITY—Identify by IEN - 2876 if you write the maker

SAFETYMIX

EXTRA SHOWER SAFETY ... at no extra cost

PROTECTS AGAINST SUDDEN SCALDS

... Safetymix, world's leading pressure-actuated non-scald shower valve gives safety in the shower. Safetymix automatically shuts down flow if either hot or cold water fails.

HOLDS SHOWER TEMPERATURE CONSTANT

... Even with excessive pressure fluctuations up to 85%, Safetymix still maintains constant discharge temperature.

LIFETIME SHOWER VALVE

... The most rugged shower control valve made. Only Safetymix has the patented Flow Control Spindle with but *one* moving part to control *all* valve functions. Built to last a lifetime.

GET FREEDOM FROM COSTLY MAINTENANCE

... Safetymix is designed with self-cleaning action to prevent clogging and save water. All parts accessible from the front. As easy to fix as a faucet.

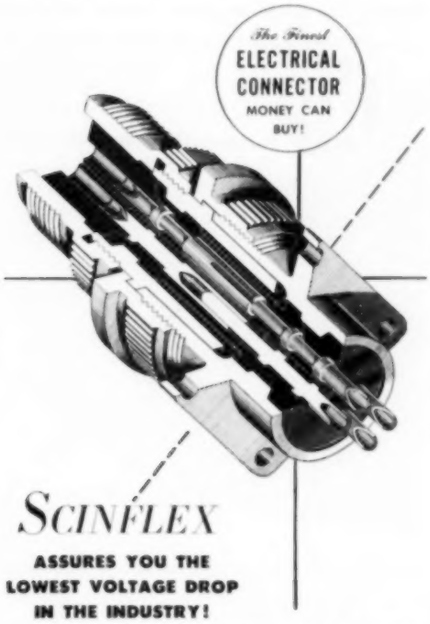
100,000 Installations Can't Be Wrong. Used by U. S. Army, Navy, Merchant Marine, colleges, industrial plants, hotels, clubs, hospitals, apartments and homes.

Send for bulletin and prices.

SAFETYMIX — MADE BY THE MAKERS OF THE NEW SYMMONS TEMPERING-CONTROLLER

Symmons ENGINEERING COMPANY
791 TREMONT ST., BOSTON 18, MASS.

BREVITY—Identify by IEN - 2877 if you write the maker



SCINFLEX

ASSURES YOU THE LOWEST VOLTAGE DROP IN THE INDUSTRY!

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX
ELECTRICAL CONNECTORS

Bendix

SCINTILLA MAGNETO DIVISION of Bendix AVIATION CORPORATION
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.
FACTORY BRANCH OFFICES: 118 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California

BREVITY—Identify by IEN - 2879 if you write the maker

CLEANING . . Engine driven machine drives scarifier brush over a floor

Source: C. H. TENNANT CO.
2574 N. 2nd St., Minneapolis 11, Minn.

For trucking aisles in big plants

Layers of dirt, oil, metal cuttings embedded in a floor are cut loose, picked up and thrown into a 10 cu. ft. dirt hopper at the front of this new Model-R machine. It drives its 36-in. wire brush or tooth-equipped scarifying cylinder at 1,400 rpm. and operates over a floor at speeds to 11 mph.

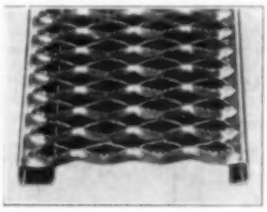
The operator manipulates his controls when the hopper has been filled to raise it to a 35-in. clearance at the front of the machine. He then releases its hinged bottom plate to dump the load prior to return to normal receiving position. Both the hopper and pressure of the brush upon the floor are actuated hydraulically. A vacuum blower withdraws light dust and deposits it in a fabric bag.

Drive is by a 25-hp. Wisconsin engine connecting to both rear wheels through a four-speed transmission. The driver can maneuver in confined locations by using the reverse gear and the rear-wheel automotive-type steering. Overall dimensions are 85 by 48 by 58 in., weight is about 2,800 pounds.

BREVITY—Identify by IEN - 2880 if you write the maker

FLOORS . . Single piece grating made by forming steel or aluminum

Source: GLOBE CO.
4002 S. Princeton Ave., Chicago 9, Ill.



Made from single sheet

Grip-Strut trade names a new grating made by perforating and forming a sheet of steel or aluminum in a press. The operation includes slitting to produce a toothed top outline with alternate openings that face down. The forming action spreads the slits and openings into a diamond pattern. It also forms flanges downward for structural strength and rigidity. The two edges are formed into channels as shown in the illustration to complete the grating unit.

Sheet gage ranges from No. 12 to No. 16. Standard length is 10 feet. Width is 9⅜ in. in a four-diamond pattern. It is 6⅞ in. with three diamond openings. Tests have been made on 20 and 48-in. sections to put these units through a cycle of 100,000 1-in. oscillations without evidence of damage or loss of original form.

Typical applications include railroad running boards, catwalks, work platforms, steps, wherever skid-proof footing is an important factor in equipment or building design.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2881 if you write the maker

BREVITY—Identify by IEN - 2882 if you write the maker

OTC

REPLACE 29 SIZES WITH THESE TWO

NEW GIANT ALLOY adjustable wrenches

THINNER-LIGHTER-STRONGER

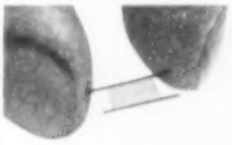
Until now 29 wrenches have been needed to handle the jobs done by these two new alloy adjustable wrenches. They are THIN—to get at the work easily. Strong—designed for added strength at fulcrum points. Light—to make job servicing easy. Economical—saves time, tools and materials. Large jobs become simple ones.

Giant alloy wrench No. OA-24 is 24" long, ⅞" thick, weighs only 10 lbs. and adjusts to 19 standard sizes from 1⅛" to 2⅞". OA-16 is 17" long, 1⅛" thick, weighs only 22 lbs. and adjusts to 16 standard sizes from 2 15/16" to 4⅛".

ANOTHER EXAMPLE OF ENGINEERING THAT MAKES OTC TOOLS OUTSTANDING

OWATONNA TOOL CO.
371 CEDAR ST., OWATONNA, MINNESOTA

BREVITY—Identify by IEN - 2883 if you write the maker



Tight "specs" on small, fragile parts are quickly and completely checked on a KODAK CONTOUR PROJECTOR

Whether you're checking this tiny radio tube grid or a big intricate commutator a foot in diameter, a Kodak Contour Projector keeps on paying its way in your inspection department.

The new Model 2A is seen here being used to measure spot samples of parts far too delicate for any but the optical method of gaging. Newly designed vertical and horizontal measuring attachments let you apply precision micrometry to inaccessible dimensions that would be distorted by mechanical contact.

If you need optical gaging for rapid routine inspection rather than for measurements, the stripped-down Model 3 is your choice. With it, even an inexperienced operator can pass a part or see at once which of many dimensions are off, and by how much.

In your area there's an engineer with wide experience in both aspects of optical gaging technique. It will cost you nothing to discuss with him the details pertinent to your particular requirements. To get in touch with him, write Eastman Kodak Company, Industrial Optical Sales Division, Rochester 4, N. Y.

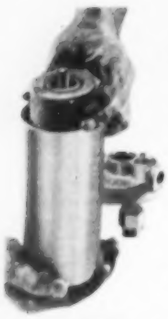
the KODAK CONTOUR PROJECTOR

If you want to check precision spur and helical gears in action, write for information about Kodak Conjo-Gage Instrumentation.

Kodak

BREVITY—Identify by IEN - 2885 if you write the maker

Read This... to Reduce This



Cuno MICRO-KLEAN Filter cuts cartridge replacement in *half* and is *guaranteed* to remove 100% of all solids larger than specified* plus a large percentage down to 1 micron. Free bulletin tells how to get positive micronic cleaning of a wide range of industrial fluids . . . at a new low cost for cartridges and maintenance.

Write for Bulletin MK-035. Cuno Engineering Corporation, Dept. 6910 M, South Vine Street, Meriden, Connecticut.

*10, 25 or 50 microns

CUNO *Fluid Conditioning* Removes More Sizes of Solids from More Types of Fluids

BREVITY—Identify by IEN - 2886 if you write the maker

*Overcured Sections

Here Lies a Good Conveyor Belt ...killed by OCS*

—BWH ROTOCURE prevents these fatalities—look for it in the belts you buy

When you buy a BWH conveyor belt made by the *continuous* ROTOCURE process of vulcanization you obtain a *uniformly strong* belt *over-all*. The weakened segments due to overlapping that sabotage operations and inflate belting costs are completely eliminated. With continuous, endless vulcanization you will be ahead 4 ways:

1. In increased belt flex life—as much as 40%
2. In elimination of mechanical distortion at the press ends
3. In constant, uniform stretch
4. In uniform, abrasion-resistant covers

Ask your BWH distributor to show you how these highly serviceable belts can help you. Or write us direct.

Another Quality Product of

BOSTON WOVEN HOSE & RUBBER CO.

Distributors in all Principal Cities
Plant: Cambridge, Mass. • P. O. Box 1071, Boston 3, Mass., U. S. A.
Warehouse Stock: 111 North Canal St., Chicago, Illinois

BREVITY—Identify by IEN - 2887 if you write the maker

TEMPILSTIKS°

the amazing Crayons that tell temperatures

. . . it's this simple:

- Select the **Tempilstik** for your working temperature.
- Mark your workpiece with it.
- The **Tempilstik** will leave a liquid mark as soon as its specified temperature is reached.

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

Available in these temperatures (°F)

113	213	313	450	650	1250	1650
125	225	325	500	900	1300	1700
138	238	338	550	950	1350	1750
150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
200	300	400	800	1200	1600	2000

Also available in pellet and liquid form.

$2 each gives up to 2000 readings

TEMPIL CORPORATION
132 W. 22nd St., New York 11, N. Y.

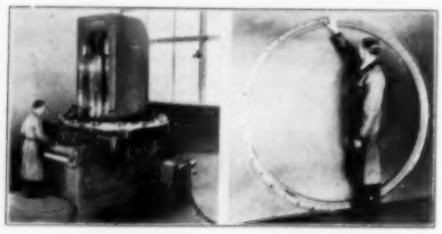
FREE—Tempil° "Basic Guide to Ferrous Metallurgy"—16¼" by 21" plastic laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

BREVITY—Identify by IEN - 2888 if you write the maker

BROACHING . . Hydraulic machine with tooling to cut teeth in a ring gear

Source: COLONIAL BROACH CO.
P. O. Box 37-A, Harper Station, Detroit 13, Mich.



Rebuilt machine and new tools

New assembly of one of the company's standard vertical hydraulic broaching machines employs a rotary indexing fixture and multiple tooth broach to cut a total of 294 teeth in a 6-ft. turret ring. The operation is completed in 30 minutes. This compares with 4½ hours for the same job in standard gear-cutting equipment.

BREVITY—Identify by IEN - 2889 if you write the maker

TESTING . . Refrigerated bath cools test chamber to minus 90 deg. F.

Source: PRECISION SCIENTIFIC CO.
3735-39 W. Cortland St., Chicago 47, Ill.

ASTM Method D97

Test chamber and dry ice chamber in this recently redesigned Frigistat bath are insulated with 2½ in. of glass wool on the sides and bottom. The housing is made of steel except for the Bakelite top and is finished in baked enamel. The inner chambers are made of spun copper. Pipe and fittings are brass. Overall dimensions are 24½ by 13 by 18 inches.

The test chamber is 7-unit design. It is cooled by circulating a fluid medium through coils surrounding it and the dry-ice chamber. Circulation is maintained by a pump and ¼-hp. motor. Manual temperature control will hold a desired setting within 2 deg. F.

BREVITY—Identify by IEN - 2890 if you write the maker

CASTINGS . . Their design advantages presented in new booklet on gray iron castings

Gray Iron Founders' Society Inc.
210-A National City-E. 6th Bldg., Cleveland 14, Ohio

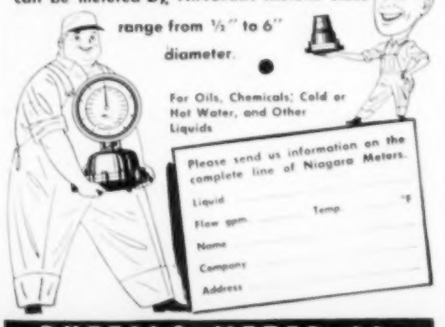
C. O. Burgess, Technical Director of the Society, is author of new 28 page booklet, "Advantages of the Gray Iron Casting Process and Products." List price is $1.50. The booklet deals with functional advantages of castings inherent in the process, economic advantages of casting as a manufacturing method, properties of gray iron as compared to other cast metals. Picture examples are included.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2891 if you write the maker

There's a Buffalo NIAGARA METER to Handle Almost Any Volume or Any Type of Liquid:

From 1/30 to 1000 gallons per minute can be metered by NIAGARA Meters. Sizes range from ½" to 6" diameter.



For Oils, Chemicals, Cold or Hot Water, and Other Liquids

Please send us information on the complete line of Niagara Meters.

Liquid _____
Flow gpm _____ Temp _____ °F
Name _____
Company _____
Address _____

BUFFALO METER CO.
2929 MAIN STREET BUFFALO, N. Y.

BREVITY—Identify by IEN - 2892 if you write the maker

TINY but MIGHTY!

SKINNER STAINLESS STEEL SOLENOID VALVES

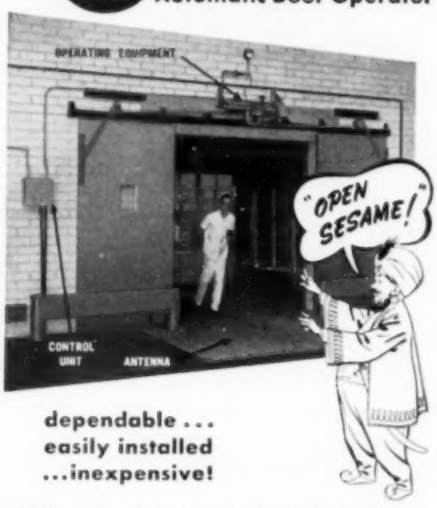
. . . Another case of "a good thing in a small package"! Users are amazed at the ruggedness and unusually large capacity of Skinner Valves—they're tiny but mighty, with a standard range for gaseous or liquid media from 5 to 250 p.s.i., and special from 5 to 850 p.s.i. Their soft insert seat prevents leakage and positive action is assured by spring loading. Skinner Valves may be used in any position, with pipe connections furnished to suit specifications. Power consumption is 10 watts max. Special coils for high humidity or high temperature applications can be supplied. Standard models are approved by Underwriters' Laboratories. *Write for Bulletin No. 501.*

SKINNER ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
134 Belden Ave., Norwalk, Conn.

BREVITY—Identify by IEN - 2893 if you write the maker

here's the most modern—most *efficient* automatic door operator ever!

the NP "Electro-Field"* Automatic Door Operator



dependable . . . easily installed . . . inexpensive!

National Pneumatic's new "Electro-Field" Automatic Door Operator offers many important advantages over ordinary equipment, yet its cost is substantially less than even the conventional photoelectric type door operator.

The "Electro-Field" Automatic Door Operator employs a balanced high-frequency electrical system with a floor-installed antenna. Unbalancing of the electrical field by a person passing over the antenna actuates the operating equipment, thus opening the door. The door closes automatically after safe clearance, with no slamming. Timing is adjustable to individual requirements. Both opening and closing are performed by air pressure.

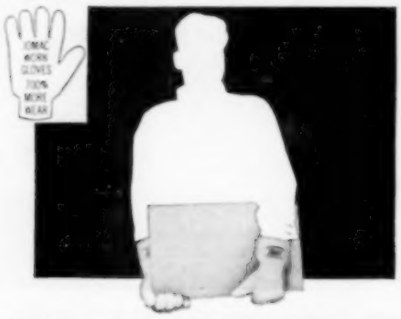
NP's "Electro-Field" controls all types of sliding, swinging or folding doors. It is pre-piped and pre-wired for easy installation. Doorways and approaches are kept perfectly clear, for no stanchions are used. The "Electro-Field" is precisely engineered and built. It stays in adjustment and gives long, trouble-free service.

Made by National Pneumatic Company, for nearly fifty years the principal supplier of door control equipment for railroads and transit systems, where dependability is of paramount importance. NP also makes a fully automatic *Photoelectric* Door Control, and two types of semiautomatic door controls — complete details will be forwarded on request.

*Trade Mark

NATIONAL PNEUMATIC CO., INC.
125 Amory Street, Boston 19, Massachusetts
WORLD'S LARGEST MANUFACTURER OF DOOR CONTROL EQUIPMENT

BREVITY—Identify by IEN - 2895 if you write the maker



NEVER ABSENT WITHOUT NEED

His hands are protected by Jomac Work Gloves. They prevent nasty burns, cuts and other such injuries. Jomacs resist sharp edges, heat and cold. They help keep workers on the job. And, because they outlast ordinary gloves 700% or more, they help increase production. Jomacs are washable, flexible and reversible. They resist tearing and snagging, too.

SPECIFY JOMACS FOR BETTER PROTECTION

We make Jomac Cloth and Jomac Gloves within our own plant. Because we do, we can guarantee the uniformly high quality of Jomac Work Gloves and the hand protection they provide.

C. WALKER JONES CO.
6135 N. Lambert St., Philadelphia 38, Pa.

BREVITY—Identify by IEN - 2896 if you write the maker

Hardness Readings in 2 seconds!

Webster PORTABLE **Hardness Testers** FOR NON-FERROUS METALS

TWO LOW-COST MODELS differing in sensitivity for rapidly testing hardness of aluminum, brass, copper, etc. No training required; one hand operation. Hardness readings in 2 seconds anywhere in shop. Can be correlated to standard hardness scales. Quick reading dial. Special anvil design tests all shapes: sheets, extrusions, tubing, strip stock. Capacity ½". Simple, rugged design, easy maintenance.

MODEL B Direct hardness readings on all aluminum alloys.

MODEL B-75 Direct hardness readings on copper, brass, etc.

WEBSTER INSTRUMENT Inc. DEPT. N, 11064 Mississippi Ave. Los Angeles 25, California

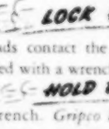
BREVITY—Identify by IEN - 2897 if you write the maker

WITH GRIPCO LOCK NUTS

APPLIED FAST! *Gripco Lock Nuts* are started on the bolt threads *fast* just like a common nut.

LOCK FAST! When the Gripco deflected threads contact the bolt threads, the nut is seated *fast* and locked with a wrench.

HOLD FAST! Until it is removed with a wrench. *Gripco Lock Nuts* can be removed and reapplied many times without appreciable loss of locking effectiveness.



GRIPCO LOCK NUT *makes the Bolt-Thread End as secure as the Head End.*

GRIPCO PILOT-PROJECTION WELD NUTS Also *applied fast.* The pilot positions the nut quickly and accurately, and is instantly attached by resistance welding.

GRIPCO COUNTERSINK WELD NUTS *Weld Fast!* The slanting "counterunk" section catches loose metal particles and slides them down the slanting "counterunk" surface away from the threads. No re-threading required!

GRIPCO WELD NUTS *are furnished with either lock or plain thread.*

GRIP NUT COMPANY
310-S S. Michigan Avenue, Chicago, Ill.

BREVITY—Identify by IEN - 2898 if you write the maker

HANDLING . . Load chain link employs locking wedge piece in center

Source: INTERSTATE DROP FORGE CO. 4047 N. 27th St., Milwaukee 16, Wis.

Handy to have

Universal designates new design in the company's Wedglok line of forged load-chain connecting links, previously described IEN-9886-47. The new unit is supplied in two sizes to connect any size chain from ¼ to ¾ in. depending on the chain type. As in the previous design it is made in three-part construction for assembly on the job as illustrated.

The link can be employed to secure fittings at the end of a load chain, to connect separate links of chain and to construct load carrying slings. Working load for the two available Universal sizes is 8,000 and 11,500 pounds. List price is $2.65 and $3.00 each for these two designs.

BREVITY—Identify by IEN - 2899 if you write the maker

FABRIC . . Bonded fiber fleece available for laminating applications

Source: PELLON CORP. 17 E. 42nd St., Room 807, New York 17, N. Y.

76 cents per yard in 50 in. width

The company announces availability of its unwoven fabric, initially developed as an interlining for garments, to apply in laminated assemblies as in fillers and protective covers. The material consists of 60 per cent wool and 10 per cent camel's hair with other elastic fibers, all bonded with the aid of synthetic resin, heat and pressure. The finished material is uniform, porous, shrink-proof. It will not crease and is capable of trapping large amounts of air in its porous structure.

BREVITY—Identify by IEN - 2900 if you write the maker

TRUCKS . . Two-wheel hand design for bundled loads to 400 pounds

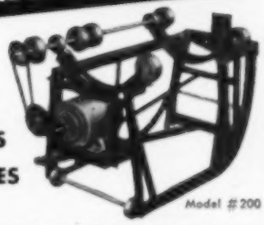
Source: HAMILTON CASTER & MFG. CO. 1664 Dixie Highway, Hamilton, Ohio

Wood facing, bolted to the frame of this new truck and covering the nose, provides a secure carrying space for bundled materials such as paper. Vertical surface measures 18 by 44 inches. The platform measures 18 by 15 inches. Mounting is on 6 by 1½-in. wheels with molded rubber tires and roller bearings. The steel frame is fitted with wood handles. Weight of the truck is 110 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

BREVITY—Identify by IEN - 2901 if you write the maker

MORSE PORTABLE ROTATOR



- MIXES
- CLEANS
- TUMBLES

Model #200

A retractable caster frame offers simpler handling of containers with the Morse Rotator. Two Neoprene Drive Wheels prevent creeping. Four drive wheels give positive driving action and two idler wheels with Torrington Needle Bearings make the Morse Rotator a smoothly operating unit. Tipping lever included with each Rotator. Write for free folder showing complete Morse line.

Less motor and drive—Wt. 75 lbs.	$147.75
Complete with motor—Wt. 155 lbs.	$228.25

MORSE MANUFACTURING CO. INC.
133 Dickerson Street Syracuse 3, N. Y.

BREVITY—Identify by IEN - 2902 if you write the maker

There are more chips falling in industry today than ever before. They must be disposed of faster, reclaimed if valuable, and with less man power.

Spencer Vacuum, applied through a nozzle at the tool, or a hose in the bottom of an engine head, or tank, or a wide powerful floor tool not only picks up metals, but separates them from the dust. Gold, magnesium, solder and welding flux are a few of the materials being salvaged every day by Spencer machines.

There are more than 100 applications of Spencer Vacuum in industry, from conveying to large area cleaning and water pick up. Ask for Bulletin No. 144.

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD

BREVITY—Identify by IEN - 2903 if you write the maker

Fans . . Blowers FOR ALL INDUSTRY
"Standard Units or Custom Design"

DOUBLE SWIVEL AEROSPOT

Fans and blowers in a wide range of standard size units are available for specific air moving and ventilating requirements. Special custom designed equipment can also be furnished. Our staff of engineers is at your disposal for competent advice on any ventilating problem. Correspondence invited, without obligation.

SEND FOR CATALOG TODAY!

For column or wall mounting. Saves valuable floor space. Direction of blast adjustable. 360° around Spindle Axis, 90° around Motor Support Axis. Sizes, 20" to 36".

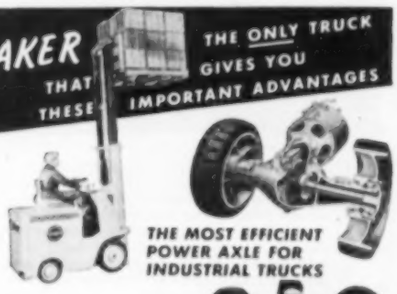
6 Blade DYNAFLOW Unit. Also available in two and four blade types. Sizes, 16" to 36".

DUCTYPE BLOWER Direct driven, single or tandem fan units. Also available with belt drive. Sizes, 10" to 36".

SOUTH BEND AIR PRODUCTS, Inc. 321 E. COLFAX AVE. SOUTH BEND, IND.

BREVITY—Identify by IEN - 2904 if you write the maker

BAKER THAT THESE **THE ONLY TRUCK GIVES YOU IMPORTANT ADVANTAGES**



THE MOST EFFICIENT POWER AXLE FOR INDUSTRIAL TRUCKS

THE STRONGEST FRAME FOR INDUSTRIAL TRUCKS

THE SIMPLEST TRAILING AXLE FOR INDUSTRIAL TRUCKS

Yours for the Asking!

24-page picture-story manual "CARE and MAINTENANCE of INDUSTRIAL TRUCKS." Write for your copy today.

BAKER INDUSTRIAL TRUCK DIVISION of The Baker-Raulang Company
1226 West 80th Street, Cleveland 2, Ohio

Baker INDUSTRIAL TRUCKS

BREVITY—Identify by IEN - 2905 if you write the maker

BETTER LIGHT *for* BIGGER PRODUCTION

Fewer rejections . . . greater safety . . . better employee relations . . . increased efficiency to meet defense demands—these are the immediate returns on your investment in good industrial lighting.

Appleton Lighting Fixtures are made to suit every industrial requirement—including hazardous locations—whether indoors or out. For the finest illuminating equipment or expert assistance on any lighting problem, contact Appleton—Standard for Better Lighting.

APPLETON LIGHTING EQUIPMENT

Sold Through Electrical Wholesalers

APPLETON ELECTRIC COMPANY
1716 Wallington Avenue • Chicago 13, Illinois
Branch Offices and Resident Representatives in All Principal Markets

APPLETON

BREVITY—Identify by IEN - 2906 if you write the maker

POWER FOR TOOLS ...LIGHTS FOR SAFETY! FAIRBANKS-MORSE GENERATING SETS

Available in capacities from 600 to 35,000 watts.

Construction and repair crews working away from high power lines will find a dependable source of electric power in a Fairbanks-Morse Generating Set.

These generators are widely used by railroads, lumber camps, oil field operators, government services, public works contractors and many others, because of their ability to take hard knocks and still deliver power.

Send for booklet describing the complete line of Fairbanks-Morse Generators. Write Fairbanks, Morse & Co., Chicago 5, Ill.

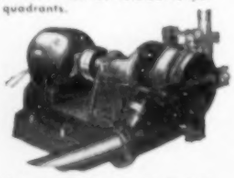
FAIRBANKS-MORSE,
a name worth remembering

BREVITY—Identify by IEN - 2907 if you write the maker

Only the New TYPE "R" MORRIS SLURRY PUMP *has these 4 features*

1. Gland is under suction pressure only. This feature practically eliminates packing troubles.
2. For dismantling, you need remove only four bolts. No internal studs or bolts . . . no troublesome fits or joints.
3. You can remove impeller and liner without disturbing piping.
4. Shell interchangeable for right or left-hand rotation. Suction and discharge nozzles can be rotated to positions in any of four quadrants.

The New Type "R" Morris Slurry Pump handles caustic or acid mixtures containing abrasives or solids, also ore concentrates, tailings, slag, residue from filters and classifiers.



Write for specifications and operation data on pumps best suited to your particular needs. No charge or obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Sales Offices in Principal Cities

MORRIS CENTRIFUGAL PUMPS

BREVITY—Identify by IEN - 2908 if you write the maker

FURNITURE . . Work bench is mass produced to minimize cost

Source: STURDI-BILT STEEL PRODUCTS INC.
622-26 S. Michigan Ave., Chicago 5, Ill.

About $18 to $44

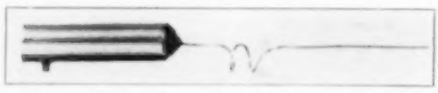
Steel frame with adjustable feet for leveling on uneven floors, a maple or hard pressed-wood top measuring 1⅝ in. in thickness, lacquered and waxed for oil and grease resistance, characterize the construction of this new work bench. It is available in two sizes with a 23 by 46½ in. or a 23 by 60 in. top. Both measure 33½ in. in height. One or two steel drawers measuring 5 in. in depth can be specified.

The bench is mass produced to sell at about $18 to $23, plain, in two sizes with the pressed-wood top. The price is about $28 to $38 with the maple top. The same units with two drawers are about $24 to $29 and $34 to $44.

BREVITY—Identify by IEN - 2909 if you write the maker

THERMOSTAT . . Metal enclosed, overall range minus 50 to 350 deg. F.

Source: THOMAS A. EDISON INC.
49-53 Lakeside Ave., West Orange, N. J.



One ampere on 115-volt ac.

Bulletin 3031 is a new miniature metal-enclosed thermostat for heat control in ovens, hot plates, heating pads, battery chargers. It is adjustable between plus and minus 60 deg. F. from its original factory setting in an overall range between minus 50 and plus 350 deg. F.

The element is a bi-metal unit anchored in a ceramic bushing and equipped with a separate phosphor-bronze spring carrying the moving contact. The separate spring prevents the bi-metal from taking a set or becoming overstressed by extreme contact pressure. Overall housing length is 1¼ inches. Diameter is about $\frac{3}{16}$ inch.

BREVITY—Identify by IEN - 2910 if you write the maker

WELDING . . How resistance welding works and how to use it described in 510-page textbook

P. R. Mallory & Co.
3031 E. Washington St., Indianapolis 6, Ind.

Fourth Edition of the company's "Resistance Welding Data Book" brings its information up to date over the previous edition published seven years ago. The book, list price $3, describes the fundamentals of resistance welding controls and equipment employed, characteristics of materials to be welded from aluminum to steel to tantalum, conductive alloys for electrodes, and recommended practices for resistance welding. A section on data tables includes maintenance suggestions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2911 if you write the maker

VERTICAL or HORIZONTAL

THE MOST *COMPACT CONVEYOR* FOR BULK MATERIALS

FORT WORTH Screw Conveyors and vertical Screw Elevators provide the most compact means of conveying or elevating bulk materials, such as grain and other free flowing products. Space occupied is less than half that of most other types of conveyors.

Vertical screw elevators are used to lift materials up to 70 feet, depending on the nature of the product.

Initial cost is low.
A minimum amount of upkeep is required.

WRITE FOR CATALOG 2000

CONVEYOR EQUIPMENT
V-BELT DRIVES
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

FORT WORTH STEEL & MACHINERY CO.
DEPT. 23, 3600 McCART ST.
FORT WORTH, TEXAS

BREVITY—Identify by IEN - 2912 if you write the maker

MARK-TIME 2000-SERIES BELL TIMER
Available in standard timing ranges from 60 seconds to 5 hours.
Normally supplied with Center Stud mounting. Other mountings available upon request.
May be supplied with winding shafts of various lengths.

mark-time "2000" bell timer preferred for dependability plus

first where quality counts

The Mark-Time 2000-Series Bell Timer is noted for rugged dependability *plus* accuracy and economy.

It is adaptable to any industrial equipment or appliance where a clear resonant bell signal is desired at the end of a measured pre-set time interval.

The Mark-Time 2000-Series Bell Timer is considered standard equipment by numerous leading manufacturers of ranges, washing machines, and other similar equipment. Wide variety of modern dial and knob designs.

Write for further details and prices.

MARK-TIME

M. H. RHODES, INC.
HARTFORD, CONNECTICUT

In Canada send inquiries to: Ontario Hughes Owens Co. Ottawa, Ontario

BREVITY—Identify by IEN - 2913 if you write the maker

How Much Is YOUR PLANT losing because of POOR VISION?

A sampling test, of a few of your own employees, will show how a Visual Testing program will give you the results that thousands of plants are reporting:

LOWER production costs and training costs; lower labor turnover; less spoilage; reduced accidents and insurance rates.

INCREASED efficiency, larger profits; increased employee satisfaction.

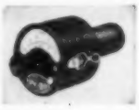
Write for *sample test* of a few of your below-average employees—or for *"What You Can Expect from a Good Vision Program,"* by a prominent industrial personnel director.

KEYSTONE VIEW COMPANY, Meadville, Penna. Established 1892. Originators of Binocular Vision Testing in Industry.

KEYSTONE Occupational Visual Service

BREVITY—Identify by IEN - 2914 if you write the maker

WHY GUESS THE TEMPERATURE *. . . when you can see it!*



Just sight it . . . and press the button!

THE NEW PYRO RADIATION PYROMETER

Tells spot temperature instantly

—in heat-treating furnaces, kilns, forgings and fire boxes. No thermocouples, lead wires or accessories needed! Temperature is indicated on direct-reading dial at a press of the button. Any operator can use it. In two double-ranges for all plant and laboratory needs. *Write for FREE Catalog No. 100.*

PYRO OPTICAL PYROMETER

Accurate temperatures at a glance!

Any operator can quickly determine temperatures on minute spots, fast-moving objects and smallest streams. Completely self-contained. No calibration charts or accessories needed. An accurate, direct reading Pyrometer that pays for itself by helping prevent spoilage. Weight 3 lbs. Available in 5 temperature ranges (1400° F to 7500° F.). Ask for *free* Catalog No. 80.

THE PYROMETER INSTRUMENT COMPANY
New Plant and Laboratory
Bergenfield 21, N. J.

▼ BREVITY—Identify by IEN-2915 if you write the maker ▼

AA-201

Camachine®

SLITTERS AND ROLL WINDERS

If you want fast, low cost production of top-quality rolls of paper, plastics, textiles, rubber, and other plain, coated, laminated or tacky-surfaced materials . . . it will pay you to investigate Camachines!

Bulletin 1010 will be sent on request

26-3A, a popular CAMACHINE featuring differential rewinding and positive roll separation. Rolls produced on the 26-3A are ideal for further processing, or for consumer use.

Cameron Machine Company • 61 Poplar Street • Brooklyn 2, N. Y.

▼ BREVITY—Identify by IEN-2916 if you write the maker ▼

Now! The OZAMATIC... Desk-Top Machine

MAKES DIRECT COPIES AT NEW LOW COST!

Makes a single copy in seconds . . . up to 1000 copies an hour

Ozalid's new Ozamatic produces clear, exact copies of anything drawn, typed, printed or written . . . any width up to 16", any length . . . on a variety of papers, cloths or foils.

It copies by light transmission at high speed—direct from any translucent original . . . at about 1½¢ per letter-size copy.

Ozamatic Saves Money . . . Eliminates double its cost, in waste time alone, in a single year. No retyping, no stencils, no negatives, no make-ready, no proofreading, because Ozamatic copies direct.

Large Volume From a Small Machine. Fits on a small desk, as shown above. Anyone can learn to operate the Ozamatic in five minutes. For opaque originals, all that is required is an inexpensive, fast, intermediary process.

WRITE FOR FREE Illustrated Literature. Tells you in full detail how Ozamatic can help boost your production . . . cut paperwork costs. Learn how easily Ozalid fits into your accounting, purchasing, shipping, order handling and receiving systems. In any business, any department!

Or call your local Ozalid distributor listed in the classified telephone book.

Cut Copying Costs . . . Use

OZALID

Johnson City, N. Y. • A Division of General Aniline & Film Corp.

"From Research to Reality"

Ozalid in Canada—Hughes Owens Co. Ltd., Montreal

▼ BREVITY—Identify by IEN-2918 if you write the maker ▼

TESTING . . Oscilloscope for general use, has a 5 in. screen

Source: TRIPLETT ELECTRICAL INSTRUMENT CO. 11-15 Harmon Drive, Bluffton, Ohio

Checks circuits, noise

Model 3441 is a new design in the company's line of oscilloscopes, previously described IEN-6332-50. Horizontal amplifier-frequency is flat within 20 per cent in a range between 20 cycles and 150 kilocycles. Deflection sensitivity is 0.15 rms. volt per inch. Response on the vertical amplifier is usable to 4 megacycles. Wave shape is square without distortion. Sensitivity is 0.01 rms. volt per inch with the switch in the 2-mc. position. It is 0.02 rms. volt per inch with the switch in 4-mc. position. Synchronizing and horizontal sweep selections are combined in one control. Assembly is in a metal housing that measures about 15½ by 11 by 16 inches.

Percentage of positive and negative peak-to-peak volts as well as direct peak-to-peak readings are in 8 ranges between 0 and 1,000 volts on an illuminating calibration meter. A phone-jack connection on the panel assists in matching the visual pattern with the audio sounds. Accessories include coaxial cables, probe and instructions. A crystal signal-tracing probe can be specified with the new unit.

▼ BREVITY—Identify by IEN-2919 if you write the maker ▼

CIRCUIT BREAKER . . And switchgear for 2,400 to 13,800 volt circuits

Source: GENERAL ELECTRIC CO. Dept. 6X-201, Schenectady 5, N. Y.

Many parts interchangeable

The company announces introduction of a new standard line of metal-clad switchgear in engineered assemblies for the most commonly encountered power apparatus and circuits. The equipment includes the company's Magne-Blast circuit breaker with electro-mechanical control built in and with auxiliary switching equipment for non-control functions mounted on the stationary structure of the switchgear assembly.

Insulation employed is characterized by its ability to retard flame and by its dielectric and anti-hygroscopic properties. It localizes damage that may occur as a result of abnormal conditions. A new positive-acting mechanical interlock and new design of raising and lowering mechanism is employed for the breaker, all driven by a motor that is demountable for hand-crank operation. Recessed screened vertical openings provide top ventilation and prevent entry of falling dirt or drip. Cable entrance is interchangeable from the top to the bottom to suit installation requirements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 88

▼ BREVITY—Identify by IEN-2920 if you write the maker ▼

GRIEVE-HENDRY PORTABLE ELECTRIC OVENS...

Standard Models For Every Special Need!

Model CR-1

10 cu. ft. capacity—30" wide x 25" deep x 24" high. Removable shelves and drip pan . . . . . $79.50 f.o.b. Chicago

Portable. Costs less than 5c per hour to operate. Adjustable temperature control to 225° F. Fan driven forced air circulation. Uniform temperature throughout. Plugs into any 110V wall outlet—no special wiring required.

Can be used in a group or bank. Use them on the production line—save handling—hauling.

Other standard models with temperature ranges to 1000°F. available. Write for literature.

GRIEVE-HENDRY CO., INC.

1654 W. HADDON STREET CHICAGO 22, ILL.

▼ BREVITY—Identify by IEN-2921 if you write the maker ▼

Another Denison FIRST

NEW 2000 PSI SINGLE-STAGE DUAL-PURPOSE VANE-TYPE OIL-HYDRAULIC PUMP

Denison is first again in hydraulic equipment with this all-new, radially balanced constant displacement pump/motor built for continuous duty at 2000 psi. It's ready for use as either pump or motor *without alterations of any kind.* Added features include clockwise or counter-clockwise operation as either pump or motor . . . up to 60 gpm pumping capacities . . . Torque ratings up to 4600 inch-pounds as a motor . . . Hydraulically balanced vane action . . . 5 sizes and 8 models—each offering a variety of porting combinations as either pump or motor . . . Face, flange and foot mountings.

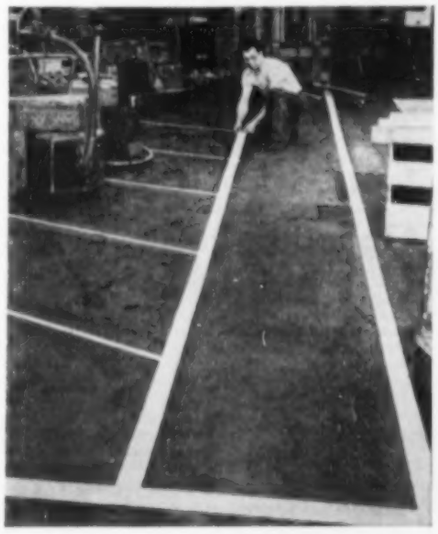
"The Finest Money Can Buy!"

The DENISON Engineering Co.
1150 Dublin Road, Columbus 16, Ohio

Write for Bulletin P-5 TODAY

DENISON HydrOILics

▼ BREVITY—Identify by IEN-2922 if you write the maker ▼



Blueprint for Savings

The straight, clean lines marking the floor in this picture are made from "SCOTCH" Brand tape, calendered from VINYLITE Brand Resin. This pressure-sensitive adhesive film sticks at a touch, outlasts conventional materials five to one.

It retains its visibility for months, resisting oil, water, acids, salt, alkalies and cleaning materials. Heavy traffic only makes it stick tighter. Available in a variety of colors, it neatly and clearly defines traffic lanes, storage areas, danger zones.

Similar tapes of VINYLITE resins are made for a multitude of other uses . . . a protective covering that also identifies electric wire . . . an airtight seal for bottle caps that keeps contents safe . . . a wrapping for chemical plant pipelines that indicates their contents . . . a weatherstrip that makes window frames weatherproof . . . a chemically-inert electrotype mold holder.

These tapes conform readily to irregular or oddly-shaped surfaces. They're strongly adhesive yet easily stripped off, highly durable and protective. In military and civilian applications, they're setting new records in versatility, economy and service. To learn what they can do for you, write Dept. LY-3.

"Scotch" Reg. T.M. M.M.M. Co.

Data courtesy Minnesota Mining & Mfg. Co., St. Paul 6, Minn., producers of "Scotch" Brand Pressure-Sensitive Tapes.

Vinylite BRAND RESINS

TRADE MARK

BAKELITE COMPANY

A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

BREVITY—Identify by IEN-2924 if you write the maker

Put Your Finger on Material Handling Costs IN YOUR OWN PLANT!

Let us send you—free and without obligation—our brand new "Material Handling Analysis Guide" that helps *you* study material handling problems in your own plant...and reveals how you can improve material handling efficiency and save money in *your* business.

Add Man-Hours Without Increasing Workloads

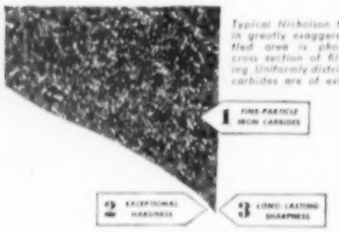
Find out how you can join those in all lines of industry who have already found the way to eliminate back-breaking, old-fashioned, hand handling . . . speed production...move more goods faster . . . add to productive capacity without increasing personnel workload.

"101" Transporter — A PRODUCT OF AUTOMATIC

WRITE NOW FOR YOURS—

The Automatic Mfg. Co.
109 West 87th Street, Dept. C-2
Chicago 20, Illinois

BREVITY—Identify by IEN-2925 if you write the maker



Typical Nicholson file tooth shape in greatly exaggerated size. Mottled area is photomicrographed cross section of file after hardening. Uniformly distributed white iron carbides are of extreme hardness.

A good tip to remember

In a file, it's the tip of the tooth that counts. That's the part which does the work. On it depend the file's cutting efficiency and serviceable life. Nicholson metallurgy, tooth designing, cutting machinery, hardening processes—all combine to put onto Nicholson and Black Diamond file teeth the strongest, sharpest, longest lasting tips science and human skill can achieve.

That's why the tips of the teeth give you the tops in value when you buy Nicholson or Black Diamond file brands. Your industrial distributor will back up that statement.

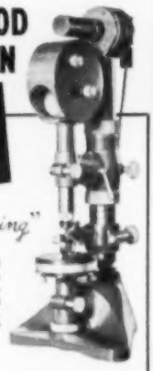
Read More About File Quality, kinds, use and care in Nicholson's famous 48-page illustrated book, "***File Filosophy.***" It's **Free**. Send for your copy.

NICHOLSON FILE CO., 33 ACORN STREET, PROVIDENCE 1, R. I.
(In Canada, Port Hope, Ont.)

NICHOLSON U.S.A. — **NICHOLSON** — A FILE FOR EVERY PURPOSE

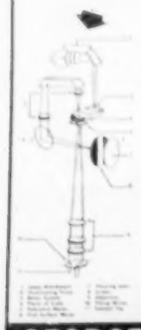
BREVITY—Identify by IEN-2926 if you write the maker

NEW OPTICAL METHOD *GUARANTEES* PRECISION



USE THE LEITZ PROJECTION ORTHOMETER

"It's Optical Measuring"



The absence of mechanical or electronic parts assures superior accuracy and reliability since the optical method is practically unaffected by heat, wear of parts, backlash, etc.

This LEITZ ORTHOMETER speeds up inspection, allows more than one person to view scale simultaneously. The only moving parts are the contact tip and mirror.

One graduation represents 50 millionths.

Guaranteed accuracy over full range of 200 graduations (.010") is .00001".

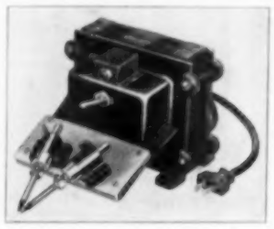
BE SAFE — SEND FOR GUIDE "OPTICAL MEASURING METHODS"

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
108C LAFAYETTE ST. • N.Y. 12, N.Y.

BREVITY—Identify by IEN-2927 if you write the maker

SOLDERING . . Carbon electrodes powered by transformer to heat work

Source: COLE RADIO WORKS
82-88 Westville Ave., Caldwell, N. J.



Operator presents the work

No. 9 designates a new size in the company's Instansolder equipment, previously described IEN-3257-47. The new unit employs ⅝-in. carbon electrodes and will heat to solder wires to No. 6 or pieces of about the same size and heat requirements. Overall dimensions are the same as in the previous assembly, 7 by 12 by 5¾ inches. Weight is about 19 lb. and input is 350 watts.

The electrodes are held in brass sleeves that slide in bronze holders on a tilting Transite table for vertical positioning above the work surface. The transformer mounts a two-heat switch, pilot light, circuit switch and cord for connection to a 110-volt 60-cycle ac. line.

BREVITY—Identify by IEN-2928 if you write the maker

CHUCK . . Handle mounted collet takes tools with shanks to ¼ inch

Source: SPRING SPECIALTY CO.
21-25 N. Fifth Ave., Maywood, Ill.

Complete set $6.50

Screw driving, nut setting, burring, reaming, chamfering, tapping, scraping, polishing are typical operations that can be performed by hand using mounted tools in this new Hand-Collet-Chuck. The wood handle is shaped to fit a worker's hand. The chuck carries a fixed ¼-in. collet. Also available are reducing collets for 3/16, ⅛ and 3/32-in. shanks.

BREVITY—Identify by IEN-2929 if you write the maker

ZINC . . Information on availability, both present and future, in new fact booklet

American Zinc Institute Inc.
60 E. 42nd St., Room 1561, New York 17, N. Y.

Six questions concerning availability of zinc are answered by new 8-page pocket booklet, "Facts about Zinc." They range from "What is the outlook for slab zinc production now and in the future?" to "What is the long-range future for zinc?" The Institute will be happy to send you a copy.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN-2930 if you write the maker

What do you do when your v-belts get loose or break?

1. ***Leave the drive alone*** . . . get more slippage, wasted power, excessive belt wear, uneven sheave wear and less production.
2. ***Slide the motor back*** . . . tight belts get too tight, life of belts and bearings is reduced.
3. ***Install a new set of belts*** . . . discarded belts mean wasted money.
4. ***Use VEELOS...***

the Adjustable V-Belt

Link construction permits quick installation. Easy adjustability provides controlled tension on each belt and eliminates loafers.

VEELOS — THE LINE — V-BELT

Write for free copy of Veelos Data Book. It gives full facts on Veelos—the belt that saves on operating and inventory costs.

MANHEIM MANUFACTURING & BELTING CO.
651 Mosbel Street, Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

BREVITY—Identify by IEN-2931 if you write the maker

Oakite's New FREE Booklet on Paint Stripping

answers many questions that will lead you to better stripping procedures. You'll want to read more about:

What's the best way to strip large areas of structural metal where a steam supply is available? *See page 5.*

What's best when steam is not available? *See page 7.*

What is the cheapest way to strip metal parts in large volume? *See page 9.*

What are the best ways to prepare stripped surfaces for repainting? *See page 11.*

What strippers are best for removing oil-base paints? . . . Synthetic enamels, alkali-resistant plastics or resin-based paints? . . . Japans, wrinkle finishes, nitrocellulose lacquers, alkyds, phenolics and ureas? *See page 12.*

FREE For a copy of "How to STRIP PAINT" write Oakite Products, Inc., 16A Thames Street, New York 6, N. Y.

Technical Service Representatives in Principal Cities of U. S. & Canada

OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

BREVITY—Identify by IEN-2932 if you write the maker

Alfred's got the soft job

(HE NEEDED IT)

That old lift truck Alfred used to command finally broke down. The company junked it and Alfred didn't fret. Now he's got a new one equipped with MONARCH MONO-CUSHION TIRES—just like the rest of us. Alfred's happy, the company's happy—Alfred gets a soft ride, the company's saving money on floor and truck maintenance.

Your best source for replacement tires is the manufacturer of your vehicles, who can supply you, through his distributors, with Monarch Tires engineered for your application.

THE MONARCH RUBBER COMPANY
201 LINCOLN PARK, HARTVILLE, OHIO
DETROIT OFFICE, 7-255 GENERAL MOTORS BLDG.

SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

▼ BREVITY—Identify by IEN - 2934 if you write the maker ▲▼

Keep your plant cleaner with

INVINCIBLE VACUUM CLEANERS

These Invincible features insure outstanding performance: 1. Multi-stage turbines produce plenty of power. 2. Positive Separation precedes vacuum producer. 3. Reach *every* surface with attachment tools. 4. Also recover scores of industrial materials. 5. Compact, portable; no interference with production. 6. 15 models from ½ to 5 H.P. 7. Larger models can be operated continuously. 8. No dirt or abrasives ever touch moving parts . . . *Over 100,000 Invincibles in use—5,000 for over 25 years. Send for free bulletin.*

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

▼ BREVITY—Identify by IEN - 2935 if you write the maker ▲▼

What he needs is ***W.I.M.****

Send for illustrated brochure

Model C2 • 2¼" Mirror **$1.95**
Telescopic Handle
A shape and size for every need

ULLMAN PRODUCTS CORPORATION SPECIALISTS IN

Work Inspection Mirrors

ULLMAN BUILDING, DEPT. N • BROOKLYN 15, NEW YORK

▼ BREVITY—Identify by IEN - 2936 if you write the maker ▲▼

U.S. VARIDRIVE

GO MODERN with U. S. Varidrive, the miracle motor that changes to any selected speed, *instantly*. It can run slow, fast or at any speed in between, right to a split rpm. You don't have to change gears, shift belts or use a rheostat. Just turn a control dial. Entire unit is self contained, all on one base.

In countless instances the U. S. Varidrive Motor has paid for itself within a few weeks by stepping up output. Our bulletin tells you why.

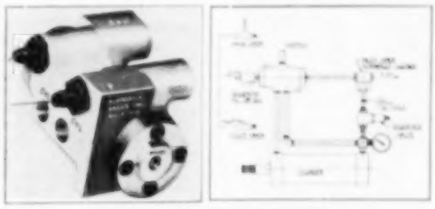
2 to 10,000 rpm—¼ to 50 hp

U.S. ELECTRICAL MOTORS Inc.
(Box 2058) Los Angeles 54, California
or Milford, Conn.

▼ BREVITY—Identify by IEN - 2937 if you write the maker ▲▼

VALVE . . Four-way pneumatic, pressure operated for cylinder control

Source: AIRMATIC VALVE INC.
1643 E. 40th St., Cleveland 3, Ohio



Actuated by exhausting pressure

Model MV-4-375 is a new piston-type 4-way operating valve for connection to pneumatic cylinders measuring 6 in. in diameter or more. It applies with two pilot valves, one at each end of the piston, and a sequence valve. One pilot valve is controlled by the operator. The other is controlled by the sequence valve. Both valves serve to bleed rather than admit air pressure for movement of the new valve.

The piston is caused to advance when the operator opens his bleeder valve or actuates a solenoid for the same purpose. Predetermined pressure builds up after the piston reaches the end of its forward stroke and opens the sequence valve to act upon the pilot in the second of the two bleeder valves. This opens the bleeder valve causing the valve spool to shift and admit air pressure to return the cylinder piston to its starting point.

The new valve can be used with oil or water, as well as air, at pressures to 150 pounds. Four sizes are for pipe lines ranging from ¾ to ¾ inches.

▼ BREVITY—Identify by IEN - 2938 if you write the maker ▲▼

CLEANING . . Abrasive blast machine operates wet to finish small work

Source: CRO-PLATE CO.
800 Windsor St., Hartford 5, Conn.

About $400

Pressure-Blast, Jr. designates new design of the company's wet-abrasive blast-cleaning machine to mount on a bench, or on a stand as shown in the illustration. Work to be finished is inserted through one of the hand holes. It is held in place and manipulated on a 13½ by 14-in. work table. A siphon-type jet gun is operated with the other hand through the second opening in the housing front. Progress of the work can be observed through a window in the housing top. The gun can be set for required air intake. Normal operation is at 20 cfm. and 80 pounds.

The abrasive is suspended in a liquid vehicle that is held in a 4-gal. compartment in the housing. It is picked up by siphon action of the compressed air passing through the gun to be delivered on the work for descaling, deburring, surface finishing. A motor-driven blower keeps the interior clear. A light, also in the interior, illuminates the work.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2939 if you write the maker ▲▼

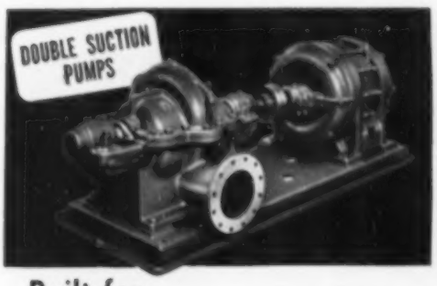
If you use tubing to convey liquids, gases or semi-solids, Titeflex can help you do it better at less cost. Titeflex flexible tubing is made in brass, bronze, stainless, Monel and Inconel. It's made in types and sizes to withstand temperatures to 1550°F. and pressures to 6800 psi. It's available in a full range of sizes, complete with any required styles of fittings. In addition, Titeflex is all-metal. Regardless of the operation, it is more resistant to fatigue . . . it will stand up longer and give better service.

Write us for catalog outlining Titeflex advantages in full.

Titeflex, Inc.
506 Frelinghuysen Avenue, Newark 5, N. J.

TITEFLEX FILLS TUBING REQUIREMENTS TO A . .

▼ BREVITY—Identify by IEN - 2940 if you write the maker ▲▼



Built for LOW MAINTENANCE

GENEROUS CONSTRUCTION with extra metal thicknesses, extra strong parts, extra construction features and extra careful workmanship means lower pumping costs for you. Every pump tested on most modern equipment in industry. Each installation individually engineered.

Horizontally split casing, ball bearings, balanced impeller, wearing rings, hand finished water passages, cast shaft sleeves, generous stuffing box length. Choice of iron, bronze, stainless steel.

Standard sizes from 10 to 7000 gpm with 475 foot head. Larger sizes available. For complete information, call your Allis-Chalmers Office, or write Allis-Chalmers, Milwaukee 1, Wisconsin for bulletin 08B6146.
A-3220

ALLIS-CHALMERS

▼ BREVITY—Identify by IEN - 2941 if you write the maker ▲▼

GOOD.....FOR ALL PRESSURES

Yarway Impulse Steam Traps are suitable for any pressure up to specified maximum *without change of valve or seat*. Types available up to 1500 lbs. Simplifies installation and maintenance. Over 650,000 Yarway Traps already *proved on the job*. Sold by over 200 distributors.
Bulletin T—1740 free.

YARNALL-WARING CO. 122 MERMAID AVENUE, PHILA. 18, PA.

▼ BREVITY—Identify by IEN - 2942 if you write the maker ▲▼

HYSTAWAY® BACKHOE

...for mounting on New or Used Caterpillar D8, D7, and 74-in. gauge D6 Track-type Tractors.

Depending on job requirements, the Hystaway can be used as a BACKHOE, SHOVEL, DRAGLINE, CLAMSHELL, CRANE. Mounting on tractor can be done in an hour (2 men); removed in ½ hour after initial installation... Full production bulldozing or normal tractor operations can then be accomplished.

See your Caterpillar-Hyster dealer; or write for catalog.

World's largest manufacturer of Tractor Winches. More than 40,000 satisfied owners.

HYSTER® COMPANY
2916 N. E. Clackamas, Portland 8, Oregon
1916 North Adams Street, Peoria 1, Illinois

BREVITY—Identify by IEN - 2943 if you write the maker

the right answer

. . . to every gauge need IN THIS NEW CATALOG

The right answer—the Marsh answer — to every pressure gauge need is described by this new Marsh catalog which covers hundreds of variations of styles, types, mountings, ranges, functions. Remember that Marsh gauges, from the "Standard" series line to the heavy-duty "Master-gauge" series have proved across the years to be the most economical you can buy for a *given* set of conditions. Let us prove this in terms of gauges for your product.

MARSH INSTRUMENT CO.
Sales affiliate of Jas. P. Marsh Corp., Dept. A, Skokie, Ill.
Export Dept.: 155 E. 44th St., New York 17, N. Y.

BREVITY—Identify by IEN - 2944 if you write the maker

B.F.Goodrich

Hauling materials for loading

Hauling materials

Inter-plant hauls

TW & W ANALYSIS

points the way to savings for all materials handling

Here's the TW Analysis Plan:

- Specially-trained BFG representatives will analyze your operation.
- They'll study your equipment, floors and hauling surfaces.
- They'll make impartial recommendations regarding tire and wheel types and sizes.
- They'll *help* you—or your materials handling engineers get better service from your industrial tires and hauling equipment.

Use the coupon for complete information.

A similar plan is available for manufacturers of industrial hauling equipment.

The B. F. Goodrich Co.
Department TW-161
Akron, Ohio
Please give me additional information on your new Tire and Wheel Analysis plan.
Name_____
Title_____
Company_____
City_____ State_____

only B. F. Goodrich has a complete line of industrial tires.

BREVITY—Identify by IEN - 2946 if you write the maker

RECORD KEEPING . . File cabinet to index and hold drawings, blueprints

Source: EMPIRE DEVELOPMENT CORP.
15 Park Row, Dept. "I", New York 38, N. Y.

Model 27-B, $139.50

New design of the steel cabinet, a new adjustable hinge for alignment, new external finish and a new aluminum hanger to file groups of drawings characterize the improved construction of the Draw-In-Dex file cabinet, previously described IEN-662-49. Overall dimensions are 30 by 20 by 48 inches. Drawings or prints are suspended in clip strips from two telescopic tubes. The underside of the hinged top carries three forms for indexing.

The cabinet will hold about 1,000 sheets and provides access to any one of them as shown in the illustration. Each assembly includes a lock, three index cards in the cover, 250 paper hanger strips and a sample metal hanger.

BREVITY—Identify by IEN - 2947 if you write the maker

FORMING . . Hydraulic press and spot welder for wire terminals

Source: PRIMEWELD CORP.
8852 Mark Twain Ave., Detroit 28, Mich.

About $8,700 without the tools

New combination of hydraulic press with special progressive tooling and the company's pneumatically operated spot-welding machine, previously described IEN-10769-48, makes wire terminals from a strip of brass or copper and assembles them on the stripped ends of wires fed manually into place. Feed can be maintained at the rate of about 80 wire ends per minute. Any type of connector can be made to include spade, eyelet, male, bullet. A section of a progressive strip with the wires placed and welded prior to final cut-off is shown in the illustration. The company is prepared to supply the equipment and to manufacture the required tooling.

BREVITY—Identify by IEN - 2948 if you write the maker

PROCESSING . . Stretching the tin supply by using less tin per food can is described in booklet

Continental Can Co.
100 E. 42nd St., 25th Floor, New York, 17, N. Y.

A. E. Stevenson of the company's Research Department is author of a technical paper which the company has reprinted as 12-page pocket-size Bulletin 27. Title is "Effect of Progress in Tin Plate Manufacture on the Use of Tin Plate for Cans for Foods." The booklet describes wartime methods of making less tin cover more area, use of electrolytic plate, alternate materials and their applications.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2949 if you write the maker

ONE PIECE TUBULAR DESIGN UP TO 2,000,000 CM

HYLUGS • HYLINKS

For dependable, rapid termination of wire and cable. Easily installed with matched Burndy tooling.

For making solderless end-to-end connections. Installed rapidly with Burndy indenting tools.

Ask your Burndy Distributor

BURNDY
NORWALK · CONNECTICUT

BREVITY—Identify by IEN - 2950 if you write the maker

***Valves That Keep* VISCOUS MATERIALS Flowing Freely**

When you handle coal tar products, asphalts, resins, waxes, molten sulfur, varnish and other materials which congeal at ordinary temperatures, you won't be troubled with clogged valves if you use EVERLASTING Steam Jacketed Valves.

The ample jacket space of these valves surrounds the ports as well as the body . . . provides extensive heating surface and correct temperature to insure fluidity. Besides, the design of the valves is quick-acting . . . non-wedging . . . and self-grinding . . . and they have the straight-through flow and lasting tightness that have made EVERLASTING Valves famous for over 40 years. Write for complete information.

EVERLASTING VALVE CO., 49 Fisk Street, Jersey City 5, N. J.
Trade Mark "EVERLASTING" Reg. U. S. Pat. Off.

EV-244A

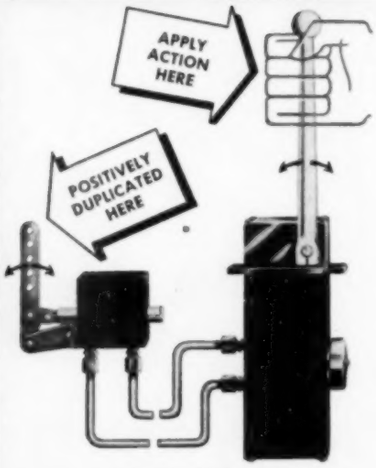
Everlasting Valves

for everlasting protection

BREVITY—Identify by IEN - 2951 if you write the maker

SUPERDRAULIC

PUMPS • VALVES • TRANSMISSIONS • TEST STANDS • REMOTE CONTROLS



POSITIVE REMOTE CONTROL

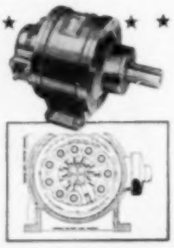
A simplified device for positioning, controlling and duplicating movement at a distance. Automatically compensates for contraction and expansion of fluid media. Operates with a smooth, rigid, silent and sensitive stroke. Many superior engineering features.

APPLICATIONS INCLUDE: processing machinery, assembly fixtures, air and marine craft, earth moving, farm, railroad and construction equipment, machine tools, test cells and military vehicles. Write for catalog.

VISIT OUR BOOTH 849—A.S.T.E. SHOW

★ ★ ★ ★ ★ ★ ★ ★ ★ ★ ★

FAMOUS SUPERDRAULIC HIGH PRESSURE PUMP



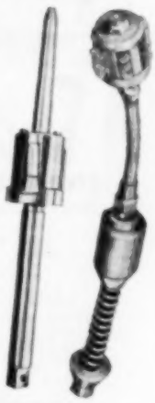
Develops up to 60 H.P. at 5,000 P.S.I. Let us quote on your requirements.

Superdraulic
CORPORATION
14256 WYOMING AVE. • DETROIT 4 MICH

BREVITY—Identify by IEN - 2953 if you write the maker

Wilsonize

• to beat the clock on down-time
• to get *better* tube maintenance



Choked or clogged tubes lower the efficiency of your tubular apparatus . . . result in costly down-time. But with Wilson Tube Cleaners on the job, even the toughest deposits are thoroughly removed from tubes of boilers, heat exchangers, stills, evaporators, etc. Tubes are left spic-and-span, ready for more service. And best of all, Wilson Tube Cleaners do their work in a hurry . . . help you beat the clock on down-time.

You get equally efficient service from Wilson Tube Expanders. They make rolling of new tubes . . . re-rolling of old tubes . . . quick and easy. These precision-manufactured tube expanders insure solid seating. They are available in all sizes, flaring and non-flaring types.

TWO BULLETINS—68-page Catalog describing complete Wilson Tube Cleaner line and up-to-the-minute Tube Expander Catalog—are available. A single request brings both.

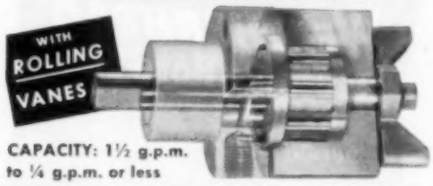
THOMAS C. WILSON, INC.
21-11 44th AVENUE, LONG ISLAND CITY 1, N. Y.
CABLE "TUBECLEAN" NEW YORK

WILSON

WILSON TUBE CLEANERS • WILSON TUBE EXPANDERS

BREVITY—Identify by IEN - 2954 if you write the maker

3 to 5 times Greater Life in NEW MAGNA-MITE PUMP



CAPACITY: 1½ g.p.m. to ¼ g.p.m. or less

Hardened rollers replace conventional vanes in this positive displacement pump. Thus *rolling friction* replaces *sliding friction* between the vanes and pressure chamber. Also, ample lubrication is assured by the wedge of fluid formed between contacting surfaces. As a result, pump life is increased 3-to-5 times over that of ordinary type vane pumps.

Check these other design advantages:

SIZE: 2⅝" diam., 6" long overall.

HANDLES: Fuel oil, gasoline, hydraulic fluid, lubricating oil, other light viscosity fluids.

TYPES: *A* — constant displacement. *B* (illustrated) — adjustable displacement (thumb lever control). C—variable and reversible displacement (permits regulating, reversing or stopping flow during operation).

MOUNTING: simple flange or angle bracket. Pump can also be inserted in a bore in a machine element for integral mounting.

SPEED RANGE: 300-3600 r.p.m.

Get the full story—write for literature

For 0-10 g.p.m. capacity, ask about the HYDROPUMP. Variable and reversible displacement.

MILWAUKEE HYDROPOWER, INC.
3445 N. 35th St. • Milwaukee 16, Wis.

BREVITY—Identify by IEN - 2955 if you write the maker

• Now, for the first time, you can order Mill-Rose precision made twisted wire brushes in 54 standard sizes . . . both single and double spiral for hand or power operation. Size range is from 3/16 inch to 1" diameter and 1½" to 3" brush length.

Mill-Rose also manufactures a wide line of special twisted wire brushes for many diversified uses in industry . . . all made to close specifications of carefully selected types of wire.

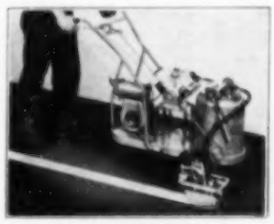
If you need twisted wire brushes for any purpose write today for the Mill-Rose Standard Brush Bulletin . . . If special brushes are needed, send specifications for a quotation.

THE MILL-ROSE COMPANY
1185 EAST 59TH STREET • CLEVELAND 3, OHIO

BREVITY—Identify by IEN - 2956 if you write the maker

MARKING . . Traffic line machine paints 10,000 ft. of line per hour

Source: UNIVERSAL MFG. & SALES CO.
8714-18 Santa Fe Ave., South Gate, Calif.



The paint is sprayed

New assembly of the company's Econo-Line marker, previously described IEN-4094-48, employs a flexible paint guard that enables the machine to put down sharp clear lines on rough surfaces at speeds to 10,000 ft. of line per hour. The guide can be set to paint any width of line between 2 and 6 inches. The machine will mark to within ⅛ in. of objects.

Power is supplied by a 2-hp. 4-cycle engine. It drives a diaphragm-type twin-cylinder compressor providing 4 cfm. for the paint delivery. Paint is held in a 5-gal. container on the machine. Conversion can be made from line marking to spray painting, stencil spraying and other spray jobs.

BREVITY—Identify by IEN - 2957 if you write the maker

CAPACITOR . . Disc ceramic unit rates 0.005 mfd. on 500 volts dc.

Source: SPEER CARBON CO.
51 Theresia St., St. Marys, Pa.

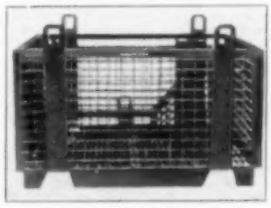
Designed to meet RTMA Standards

J-Cap is a new capacitor now in mass production by the company's Jeffers Electronics subsidiary. It measures 0.504 in. in greatest diameter and 0.156 in. in maximum thickness. It is a combination of Jeffers' fabricated high-K ceramic body and a new coating material that imparts physical strength. Test voltage is 1,300 volts dc. Leakage resistance is 7,500 megohms. Power factor is about 2.5 per cent.

BREVITY—Identify by IEN - 2958 if you write the maker

HANDLING . . Work boxes made of grating to carry hot forgings

Source: KERLOW STEEL FLOORING CO.
224 Culver Ave., Jersey City 5, N. J.



Low ratio weight to load

New application for the company's steel grating lies in this line of work-handling boxes. They can be specified for size, shape and load capacity. The new units are designed for transportation on fork trucks or by overhead crane. The design permits tiering. Included in the line are grating pallets and bin-top storage grating, all to specification.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

BREVITY—Identify by IEN - 2959 if you write the maker

Standard Replaceable Cold Formed Offset
WELDING TIPS

Through the development of special cold forming equipment and methods, Weiger-Weed produces offset welding electrodes with these important advantages: . . . .

(Shown above) Weiger-Weed Cold Formed Offset Tip, Type D

- No loss of physical or electrical properties—cold formed offset tips have the same hardness and conductivity as straight tips.
- No distortion of taper—good electrical contact, no water leaks.
- Full cooling—water hole is as deep as in straight tips.
- Full workable nose length.
- Economy, quick delivery—most styles are formed quickly from standard straight tips.

Many other special cold formed electrodes to lick difficult clearance problems can be worked out by WW if quantities warrant the tooling. Give us the details of your problem.

W·W
WEIGER-WEED
Weiger-Weed & Company, Division of Fansteel Metallurgical Corporation, 11644 Cloverdale Avenue, Detroit 4, Michigan

BREVITY—Identify by IEN - 2960 if you write the maker

The Mercury Automatic Clutch *makes life easier* for Electric Motors

Life has been a lot easier during the last ten years for electric motors lucky enough to be equipped with Mercury Automatic Clutches. Take starting, for instance. During the starting period, when the direct coupling of the power to the load is the least effective and the torque requirements the greatest, the Mercury Automatic Clutch automatically brings the maximum torque of the motor to the driven load. Then, when the load is up to speed, it transmits power at 100% efficiency. Overloads cannot stall the power source or slow it down below its efficient speed. Even a smaller motor equipped with a Mercury Automatic Clutch can often do a bigger job than a motor not so equipped. If you build equipment or machines powered by electric motors (or gasoline engines) investigate the Mercury Automatic Clutch. Ask for Catalog C-9.

BREVITY—Identify by IEN - 2961 if you write the maker

6 lb. bronze melt in 6 min.

6 lb. alloy steel melt in 12-15 min.

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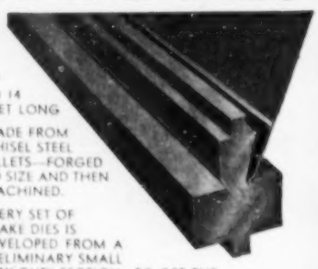

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BEARINGS . . "Monoball" self aligning spherical plain bearings and spherical rod ends; drawings, dimensional load data on 3/16 to 3 in. units. Catalog 551, 16 sheets. Southwest Products Co., 8-12 S. Catalina Ave., Pasadena 1, Calif. IEN-0245

BORING . . Swiss jig boring machines, dividing machines, gauging tools and machines, contour projectors; specifications, dimensions, standard and special equipment. Catalog, 31 sheets. American Sip Corp., 100 E. 42nd St., Rm. 1014, New York 17, N. Y. IEN-0246

CAPACITORS . . Metal-encased paper-dielectric units to meet JAN-C-25 specifications; mounting types, ratings, circuit diagrams, designations. Catalog 21, letterhead request, 24 pages. Sprague Electric Co., 344 Beaver St., North Adams, Mass. IEN-0247

CHEMICALS . . Compressed gases for laboratory use from air to sulphur dioxide; properties, list prices, connections, regulating valves, accessories. Catalog 2086, 24 pages. Ohio Chemical & Surgical Equipment, 1402 E. Washington, Madison 3, Wis. IEN-0248

CHEMICALS . . Petroleum-base white oils, petrolatums, petroleum sulphonates, oil emulsifiers, solvents; properties, specifications, application notes. "Penn-Drake Petroleum Products," 4 pages. Pennsylvania Refining Co., 119-23 W. North, Butler, Pa. IEN-0249

COMMUNICATING . . Two-way radio-telephone equipment for shop trucks, plant-yard vehicles, other mobile units; review of the equipment, applications. Bulletin MC-1752, 4 pages. Radio Corp. of America, 1941 Front & Cooper Sts., Camden 2, N. J. IEN-0250

CONDUCTORS . . "Okalite-Okoprene" insulated electric cable for control circuits in electrical power plants; sizes, color coding, picture details on manufacture, performance and testing. Bulletin OK-1956, 16 pages. Okonite Co., 36 Canal, Passaic, N. J. IEN-0251

CONDUCTORS . . Electric wire and cable for coal mining service; sizes, ratings, construction on types below and above 600 volts, insulation, splicing instructions. Catalog W-51-7, 52 pages. U. S. Rubber Co., 1230-34 Sixth Ave., New York 20, N. Y. IEN-0252

CONDUCTORS . . Insulated electric wire for telephone and communication service; types, properties, weights, detail stories on development of insulation, manufacture. Bulletin T-2-1952, 24 pages. Whitney Blake Co., 98-102 Pershing, New Haven 41, Conn. IEN-0253

CONSTRUCTION . . Portable gasoline power rammer to compact earth by a 14-in. jump while operator holds it; captioned cut-away view, notes on variety of applications. Bulletin 621, 8 pages. Barco Mfg. Co., 1804 W. Winnemac Ave., Chicago 40, Ill. IEN-0254

CONTRACT WORK . . Illustrated facilities for sheet-metal fabricated products, picture examples of peacetime and wartime products. "We're Ready . . .", 20 pages. Inland Steel Products Co., 4155-59 W. Burnham St., Milwaukee 15, Wis. IEN-0255

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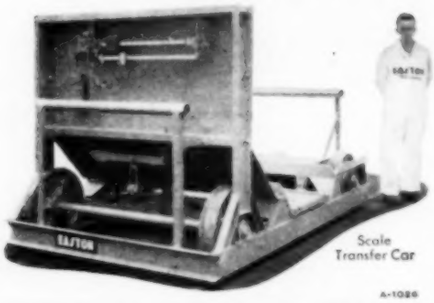

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CONTRACT WORK . . Steel fabrication service from sheet metal to heavy sections; facilities, examples of work, also steel buildings, doors, stainless products. "This Is International," 44 pages. International Steel Co., 1319-23 Edgar St., Evanstille 11, Ind. **IEN-0536**

CONTRACT WORK . . In sheet metal from 24 to 10 gage; review of facilities available for defense subcontract work from planning to assembling; pictures. "Defense Production Brochure," 8 pages. Lyon Metal Products Inc., 1734 Montgomery, Aurora, Ill. **IEN-0537**

CONTROLS . . "Pyr-O-Vane" thermocouple or radiation pyrometer controller with electronic operation and plug-in galvanometer; description, ranges, forms. Specification Sheet 114, 4 pages. Brown Instrument Div., 4636 Wayne Ave., Philadelphia 44, Pa. **IEN-0538**

CONTROLS . . Recording and controlling viscometer for process use; operating principle on measuring element, description on recorder mechanism, examples of use. Bulletin V-1008", 8 pages. Norcross Corp., 245-49 Newtonville Ave., Newton 58, Mass. **IEN-0539**

CONTROLS . . Sealed plug in electronic amplifiers to control 400-cycle two-phase servo motors; specifications, response curves. Folders SA-104-H and 112-H, 4 pages each. Servomechanisms Inc., Stewart & Post Aves., Westbury, N. Y. **IEN-0560**

CONVEYING . . Portable power belt conveyor for horizontal or inclined service; roller end feeder sections; description and dimensions on three models. "Universal 600-U," 4 pages. Industrial Engineering & Mfg. Co., 801 Main St., Brinfield, Ind. **IEN-0561**

CONVEYING . . "Tote-All" portable belt conveyors for bulk material or packages; descriptions on four models, specifications, examples of use. Bulletin 495, 8 pages. Lake Shore Engineering Co., 51 Lake Shore Blvd., Iron Mountain, Mich. **IEN-0562**

CONVEYING . . Oscillating trough units to convey, feed, cool, screen bulk material from pounds to tons; capacity charts, selection examples, arrangements, drive. Booklet 2444, 24 pages. Link-Belt Co., 305-9 N. Michigan Ave., Chicago 1, Ill. **IEN-0563**

CRANES . . Types CZB and CXF crane trucks, 6,000 and 10,000 lb capacity, battery operation; construction points, turning diagram, load-radius chart, specifications. Bulletin 1613, 6 pages. Baker Industrial Truck Div., 1248-52 W. 80th St., Cleveland 2, Ohio **IEN-0564**

CYLINDERS . . Hydraulic cylinders in double-acting and rotating designs; dimensional drawings and tables with information on selection and mounting methods. Catalog Section 200-3, 22 pages. Logansport Machine Co., 913 Center Ave., Logansport, Ind **IEN-0565**

DRAFTING . . "Vibax" drafting machine to make isometric and dimetric drawings by tracing standard orthographic drawings; description, picture examples of work. Bulletin V-14, 8 pages. Indamer Corp., 13 W. 42nd St., Room 2536, New York 18, N. Y. **IEN-0566**

DRIVES . . Three-ply leather belt for use on tapered cone pulleys; description on requirements to be met and method of resisting diagonal stress in the belt. Folder, "Cone-Master," 4 pages. Alexander Brothers, 404-8 N. 3rd St., Philadelphia 23, Pa. **IEN-0567**

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DRIVES . . Miniature transmission with fixed and variable speed sections to give speed range to .6 to 20 revolutions per day on 1,800 rpm. input, others to 5,400 rpm. Data Sheet M 1, 2 pages. Metron Instrument Co., 439-34 Lincoln St., Denver 9, Colo. **IEN-0569**

DRIVES . . Gears, speed reducers, motor-driven reducers, shaft couplings, power valve operators; picture review, condensed specifications, catalogs. "Power-Thrifty Products," 4 pages. Philadelphia Gear Works, G St. & Erie Ave., Philadelphia 34, Pa. **IEN-0570**

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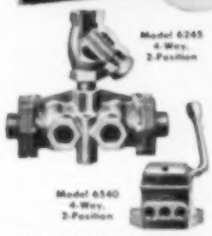

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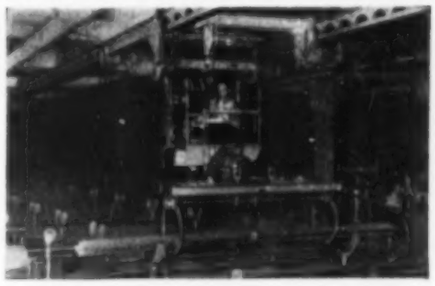

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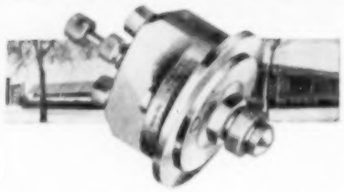

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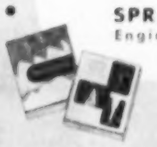

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DRIVES . . Flexible shafts for power transmission and remote position control; applications in product design, selection data, ratings, standard units and fittings. Catalog 400, 64 pages. F. W. Stewart Mfg. Corp., 4309-13 Ravenswood, Chicago 13, Ill. IEN-0271

DUST COLLECTING . . Equipment for fine process dust, employing wool-felt filter cylinder and reverse jet cleaning ring; operation, flow diagrams. "Mikro-Collector," 16 pages. Pulverizing Machinery Co., 169 Chatham Rd., Summit, N. J. IEN-0272

ELECTRONIC PRODUCTS . . Connectors, tools, insulators, knobs, fastenings, cabinets, panels, switches; descriptions, list prices, contract facilities. Catalog C-652, 32 pages. Insuline Corp. of America, 36-04 35th Ave., Long Island City 1, N. Y. IEN-0273

ELEVATORS . . Caster-equipped hydraulic elevating tables with 2,000 to 20,000-lb. capacity in a range of models; catalog descriptions, notes on use, condensed specifications. Bulletin 206, 4 pages. Raymond Corp., 3588 Madison St., Greene, N. Y. IEN-0274

ENGINES . . Type-CMA gas and semi-diesel two-cycle engines for oil-well pumping service; horsepower curves on two models, outline dimensions, table of general specifications. Bulletin 511, 4 pages. Ajax Iron Works, 1952 Castor St., Corry, Pa. IEN-0275

EXTINGUISHING . . Fire-fighting equipment; selection chart by type of fire, details on foam, dry-chemical, carbon-dioxide, soda-acid, vaporizing-liquid units. "Correct Fire Protection," 32 pages. American-La France-Foamite, 903 Erie, Elmira, N. Y. IEN-0276

FASTENING . . Model-450 cartridge-power stud driving tool; description of its features and operation, illustrated examples of use, available types of drive studs. Folder 939, 4 pages. Remington Arms Co., 751 Barnum Ave., Bridgeport 2, Conn. IEN-0277

FASTENINGS . . Formed sheet-metal locknuts to provide tension on an adjusting screw, also special units to secure electronic coils and cans; sizes, installation. "Radio Coil Fasteners," 4 pages. Painut Corp., 59 Cordier St., Irvington 11, N. J. IEN-0278

FEEDING . . "Pioneer-Oro" conveyor-type feeder for rock to a crushing machine; description of manganese-steel construction, selection and capacity data. Bulletin 630, 20 pages. Pioneer Engineering Works, 1513-17 Central Ave., Minneapolis 13, Minn. IEN-0279

FLOORS . . Asphalt mastic materials, tile cements, non-slip coatings; condensed data on these and adhesives, corrosion proofing, sound deadeners. "Industrial Products Digest," 24 pages. Flintkote Co., 30 Rockefeller Plaza, Rm. 4111, New York 20, N. Y. IEN-0280

FLOORS . . Materials to clean, seal, maintain floor surfaces; available products and their use, information on maintenance by type of floor and condition. "Proper Care of Floors," 32 pages. West Disinfecting Co., 42-18 West St., Long Island City 1, N. Y. IEN-0281

FURNITURE . . Steel work benches, individual and continuous; standard models with steel, Masonite, wood top, accessories, also drawers, bench legs, stool, stands. Bulletin 100, 8 pages. Angle Steel, Inc., 352 Thomas St., Plainwell, Mich. IEN-0282

FUSES . . Plug, cartridge, renewable type, also fuse clips, fuse pullers; illustrated information on these and on visible-level oilers with accessories. Folder FLB-300-C, 8 pages. Trico Fuse Mfg. Co., 2946-50 N. 5th St., Milwaukee 12, Wis. IEN-0283

GAGE . . Optical instrument to measure cam contours precisely; description on the unit and on an optical dividing head with a fixed base for precision inspection. "Cam Rise Gauge," 2 pages. F. T. Griswold Mfg. Co., 303-7 W. Lancaster Ave., Wayne 5, Pa. IEN-0284

GAGES . . Flow rate, head loss, water level units particularly for water-treating plants; data on indicating and recording models, drawings of typical installation. Bulletin 450-H-10, 4 pages. Builders-Providence Inc., 345 Harris Ave., Providence 1, R. I. IEN-0285

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THERMOSWITCH®
Electric Temperature Control and Detection Devices
SENSITIVE...*but only to heat*

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step up production with

STOW flexible shaft MACHINES

These dependable STOW FLEXIBLE SHAFT MACHINES save production time . . . speed up output . . . help lower production costs. Variable Speed Models shown are easily portable . . . cut down operator fatigue and increase on the job efficiency!

Constant Speed Models available. Also complete line of accessories designed to increase the utility of STOW Flexible Shaft Machines!

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when you need

ELECTRICAL CONTACT ASSEMBLIES

Gibson's PROCUREMENT EXPERIENCE can help you

Gibson's experience in the procurement of critical materials for contact supports (typically copper and copper alloys) has often proved a distinct help to customers who order complete contact assemblies. Our relations with producers of basic materials enable us to take maximum advantage of ratings and allotments, and to follow the best procedure to obtain critical materials for both contacts and contact supports.

Customers who order complete contact assemblies can also take advantage of our complete fabricating facilities without the need of expanding their own equipment or personnel.

Gibson Contact Assembly Service Tailored to Fit Your Needs

Gibson Electric Company can supply you with complete contact assemblies with contacts welded, brazed, or riveted to supports supplied by us . . . or we will attach contacts to supports supplied by you . . . or we will furnish you contacts of any type for assembly in your own plant.

Gibson engineers are specialists in the engineering of contact supports, as well as the contacts themselves. They are available at all times for advice on your applications.

Gibsiloy ELECTRICAL CONTACTS — Manufactured by GIBSON ELECTRIC COMPANY 8353 Frankstown Ave., Pittsburgh 21, Pa.

▼ BREVITY—Identify by IEN - 2987 if you write the maker ▼

METER . . Miniature ac. and dc. units mount in hole measuring 1⅝ inches

Source: STERLING MFG. CO. 9210-14 Detroit Ave., Cleveland 2, Ohio

Four mounting lugs

Voltmeters, ammeters and milliammeters with ranges from 1 to 50 volts, 1 to 30 amp. and 10 to 1,000 milliamperes are available in a new miniature line to apply in 1⅝-in. mounting holes with back panel clearance of 1 in. from the flange. Reading accuracy is within 5 per cent at any given point. Overall accuracy is within 10 per cent.

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DRYING . . Refrigerating unit to remove excess moisture from a room

Source: WESTINGHOUSE ELECTRIC CORP. 651-55 Page Blvd., Springfield 2, Mass.

List price about $152

Air Drier designates a new assembly of motor-driven refrigerating equipment, assembled in a cabinet measuring about 2 ft. in height, to install in a basement, work shop, storage space. It removes excess moisture from the air to prevent molding, rotting, corrosion.

Air is drawn into the unit by a fan and is passed over a copper-tube evaporator. Excess moisture in the air condenses on the cold tubes in which refrigerant is expanded in a closed cycle including a motor-driven compressor and condenser. The moisture drains off into a 12-qt. bucket at the rear of the housing. The air from which the moisture has been removed is blown back into the room.

Capacity is sufficient to dehumidify an enclosed space containing 10,000 cubic feet. Operation is on 110-volt ac. Weight of the new assembly is about 100 pounds.

▼ BREVITY—Identify by IEN - 2989 if you write the maker ▼

SEALING . . Solid plastic disc of polytrifluorochloroethylene resin

Source: UNITED STATES GASKET CO. 658 N. 10th St., Camden 1, N. J.

Illustrated is one of 600 Kel-F plastic discs fabricated by the company for use in a chemical plant. Each measures 45 in. in diameter by ⅛ in. in thickness with thickness tolerance at plus or minus 0.005 inch. Unit weight is 16 pounds. The company is prepared to supply similar discs to specification in diameters to 12 feet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 2990 if you write the maker ▼

Toledo SIMPACT—self-contained, adjustable threader, 1" to 2" pipe.

You'll do better with Toledo Pipe Tools and Power Pipe Machines on the job! *Better workmanship* . . . Toledo assures clean-cut threads for tight, leak-proof joints. *Faster production* in threading, cutting, reaming . . . ease of operation . . . accurate, efficient performance. *Lower costs* . . . Toledo dependability saves time and labor. Write for catalog. The Toledo Pipe Threading Machine Co., Toledo, Ohio.

RELY ON THE LEADER TOLEDO

PIPE TOOLS . . . POWER PIPE MACHINES . . . POWER DRIVES

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Today's Answer to Tramp Iron Hazards

DINGS NON-ELECTRIC ALNICO PERMA*-PULLEY

REMOVING damaging tramp iron the Perma-Pulley way brings you a combination of advantages unmatched by any other tramp iron separator:

- **Automatic** — unaffected by power failures, requires no attention. Just install it and forget it.
- **No Maintenance** — no wiring, no electrical accessories to require repairs or replacement.
- **No Operating Cost** — pays for itself in power savings.
- **Magnetic Permanence Guaranteed** for the life of the installation.
- **Powerful** — Tremendous surface strength means positive tramp iron removal.

Simple to install, lightweight, made of the highest grade Alnico, the Perma-Pulley is backed by over 50 years' experience in the design and manufacture of magnetic separators by Dings for all industry. *Write for catalog.*

DINGS MAGNETIC SEPARATOR CO. 4755 W. ELECTRIC AVENUE MILWAUKEE 14, WIS.

Dings "HIGH INTENSITY" *Registered Trade Mark

▼ BREVITY—Identify by IEN - 2992 if you write the maker ▼

Improved Method Centrifugal SPRAY DRYER and CONCENTRATOR*

CONTRACT DRYING

We invite inquiries for Contract Drying in our fully equipped, Stainless Steel Plant in Chicago. Shipments can be made direct to our Railroad Switch Track or Truck Docks.

THE DRYING AND CONCENTRATING COMPANY DRYER

Improved method for **DEHYDRATING**

Solutions, emulsions and materials which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soups, Vegetables, etc.

This complete spray drying plant employs a unique centrifugal-type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cooler and Sanitary Pumps with variable speed drives for handling the liquid material and controlling the moisture.

***CONCENTRATOR AVAILABLE SEPARATELY**

The Concentrator can be operated as a separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining neutral flavors and vitamins.

3039

DRYING and CONCENTRATING CO. 332 SOUTH MICHIGAN AVENUE CHICAGO, ILLINOIS

▼ BREVITY—Identify by IEN - 2993 if you write the maker ▼

ROCKWOOD

- FASTER
- MORE EFFICIENT
- LESS WATER

TRIPLE-ACTION

WaterFOG Nozzles

Rockwood *LIGHTweight* triple-action type 50-48 WaterFOG Nozzles are truly an all-purpose fire fighting tool for controlling and putting out fires in ordinary combustibles and flammable liquids. They use ordinary water and will discharge: 1. High velocity WaterFOG, 2. Straight water stream, 3. Low velocity WaterFOG from extension applicator. Protects operator from fumes and heat. Available in ¾" — 1" — 1½" — 2½" pipe sizes. Operates efficiently at 100 p.s.i. at the nozzle. Write for Bulletin C-501 R.

Approved by Underwriters' Laboratories, Inc. and Factory Mutual Laboratories.

ROCKWOOD SPRINKLER COMPANY 40 HARLOW ST. WORCESTER 5, MASS.

BREVITY—Identify by IEN - 2994 if you write the maker

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GIVE
Greater Service
WITH
Longer Life...

A "twist of the wrist" does it.

Still in active service after 15 years. The First Moto-Truc Walkie (1936).

• The matchless performance of this original experimental model of the first "Walkie" is unequaled in the history of materials handling. It has long since paid for itself in many ways. It is SYMBOLIC of Moto-Truc's RUGGED stability.

• Thousands of Moto-Truc Walkies are in daily use all over the country. They operate on rigid, daily schedules with no loss of their original efficiency.

SEND FOR Bul. No. 51

DON'T BE SATISFIED WITH LESS THAN THE BEST

THE MOTO-TRUC CO.
1953 E. 59th ST., CLEVELAND 3, OHIO
PALLET, PLATFORM AND HI-LIFT TRUCKS

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Automatic removal of oils, chips, dirt, grease, etc. from METAL and OTHER parts by ACTIVE washing and SOAKING.

SIMPLE PRACTICAL

Pats. pending

Based on the old, tried and proven "dunking" method.

Please write for circular and details

No Pumps, sprays or handwork

"SUPER-SOAK" PARTS WASHERS

Attractive sales territory open.

THE SUPER-SOAK COMPANY
3770 So. Pennsylvania Ave. MILWAUKEE, WIS.

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WHAT IS YOUR "SPECIAL" JOB FOR STRAPPING?

A manufacturer of X-ray equipment required that a box of parts be packed with each highly finished X-ray unit. The A. J. Gerrard fiber and steel strap was applied around the carton as well as the polished steel. The paper covered steel strap applied directly on the product saved packing time and assured arrival of shipment in a first class condition.

With 11 different kinds of strap available, A. J. Gerrard also can help you.

Strap Calculator. Write for your free copy.

STEEL STRAPPING

A. J. Gerrard & Co.
1950 HAWTHORNE BLVD., MELROSE PARK, ILL.
(Chicago Suburb)

NEW LITERATURE—Continued

GAGES . . Portable and stationary draft gages, manometers, air-filter gages, combustion analysis and gas-flow test kits; models, ranges, accessories. Instruments Catalog, 12 pages. F. W. Dwyer Mfg. Co., 207 S. Western Ave., Chicago 12, Ill. IEN-0286

GENERATORS . . Electric generating sets in air and water-cooled gasoline-engine drive, also marine gasoline and diesel drive; list prices on 250 to 50,000 watt units. Form SE-3, 4 pages. Universal Motor Co., 310 Universal Drive, Oshkosh, Wis. IEN-0287

GRINDING . . Abrasive belt and wheel grinding, polishing, buffing machines and accessories; illustrated models, specification summaries, backstands, dust collectors. Catalog 75, 20 pages. Hammond Machinery Builders, 1667 Douglas Ave., Kalamazoo, Mich. IEN-0288

GRINDING . . "Diaform" attachment to dress contour grinding wheels; step-by-step picture example of use in making a punch and die, other uses, specifications. Bulletin 543, 8 pages. Pratt & Whitney, 49 Charter Oak Blvd., West Hartford 1, Conn. IEN-0289

GRINDING . . Series 220 machine to grind shear blades, paper knives, doctor blades 78 to 220 in. in length; construction details, notes on knife bar. Bulletin 220, 6 pages. Samuel C. Rogers & Co., 185-89 Sutton Ave., Buffalo 11, N. Y. IEN-0290

HANDLING . . Wirebound wood box with pallet-type base to handle materials by power truck; design features, notes on assembly from knock-down form, illustrated uses. "Stacks Up Better," 4 pages. American Box Co., 1902 W. 3rd, Cleveland 13, Ohio IEN-0291

HEAT TREATING . . "Hard 'N' Tuff" hardening compound for low-carbon steel parts; technical reprint on how it works, how applied, limitations, examples of use. Reprint folder, 4 pages. Doughty Laboratories Inc., 500 Fifth Ave., New York 18, N. Y. IEN-0292

HEATING . . Film-type heating elements, applied integral or on detachable plates; properties, applications, connections, controls. "Electrofilm Elements," 12 pages. Electrofilm Corp., 7114-18 Laurel Canyon Blvd., North Hollywood, Calif. IEN-0293

HEATING . . "Corridor" blower-type unit heaters in sizes to 1,500,000 btu. for central-system and large-space heating; selection instructions, wiring, piping, capacities. Bulletin DS-327-A, 56 pages. Trane Co., 2017 Cameron Ave., La Crosse, Wis. IEN-0294

INSULATING . . Electrical insulating materials including varnishes, Glyptal products, varnished cloth, sealing compounds, silicones, mica, silicone-glass; properties. Bulletin CDL-23, 8 pages. General Electric Co., 191 Plastics Ave., Pittsfield, Mass. IEN-0295

LIGHTING . . Cold-cathode fluorescent lamps and fixtures; review of operating and performance characteristics, notes on available fixtures, illustrated applications. "Cold Cathode," 4 pages. Colonial Electric Products, 152 Market, E. Paterson, N. J. IEN-0296

LIGHTING . . "Powerstat" packaged-type light dimming equipment; details on autotransformer principle, models and circuit diagrams, rating table, dimension drawings. Bulletin D-651-P, 12 pages. Superior Electric Co., 951 Demers Ave., Bristol, Conn. IEN-0297

LIGHTING . . Type JH-A 400-watt fluorescent mercury lamp to produce a golden white light; characteristics, applications, data on four fixture types. Booklet A-6007, 4 pages. Westinghouse Electric Corp., 2-4 McArthur Ave., Bloomfield, N. J. IEN-0298

LUBRICATING . . "Cut-Max" cutting oils in ready-to-use and concentrate forms; review of general properties and application scope for eight materials. Folder 2-329-A, 4 pages. E. F. Houghton & Co., 301-5 W. Lehigh Ave., Philadelphia 33, Pa. IEN-0299

MAGNETS . . Stock sizes and shapes of Alnico permanent magnets, both cast and sintered; dimensions, pull values, magnetic retrievers, holding assemblies, ordering. Bulletin PM-100, 20 pages. Carboloy Dept., 11167 E. 8 Mile Rd., Detroit 32, Mich. IEN-0300

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 2997 if you write the maker

Ask us how SPEEDWAYS help you compete for new business

SPEEDWAYS LOW COST CONVEYORS

Speed up production and lower your handling costs

If high costs are preventing you from successfully bidding for new business, let us show you how a SPEEDWAYS system can help place you in a strong competitive position. Call your local SPEEDWAYS distributor — or write us — for the facts!

- SPEEDWAYS Gravity Wheel Conveyors
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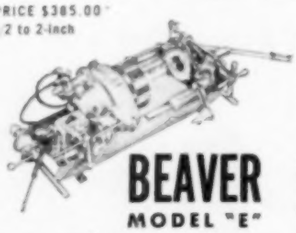
- SPEEDLIFT Portable Power Belt Boosters
- SPEEDBELT Assembly Conveyors

SPEEDWAYS Conveyors, Inc.
1244 Niagara St., Buffalo 13, N. Y.
Also Mfd. in Canada; Union of So. Africa

BREVITY—Identify by IEN - 2998 if you write the maker

PRICE $385.00
1/2 to 2-inch



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MODEL "E"
pipe and bolt machine

RIGHT-HANDED

GEARS RUN IN OIL

HANDY CHIP TRAY

RUGGED STAND AVAILABLE

● Cuts, threads and reams all kinds of pipe from 1/8 to 2-inch. With a drive shaft and geared tools cuts and threads pipe up to 8-inch. Cuts off bolts and rods up to 7/8-inch. Threads bolts and rods to 1 1/2-inch in one cut; up to 2-inch in two cuts.

Write Beaver for detailed bulletin—or order through your supply house!

"Over 50 Years of Friendly Service"

BEAVER PIPE TOOLS
262-300 Dana Avenue
Warren, Ohio, U.S.A.

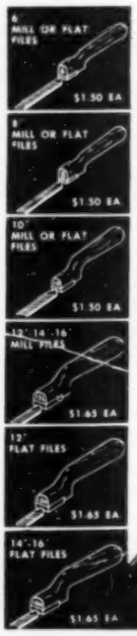
NO SPINDLE WHIP

SAFETY SWITCH LOCK

RENEWABLE BRONZE BEARINGS

BREVITY—Identify by IEN - 2999 if you write the maker

SAFETY FILE HANDLES by Remont



give lasting safety and surfacing clearance with no handle interference, making them ideal for die-makers—under and over handle gives complete visibility for lathe work. Files are securely held in a steel, dove-tailed V-block . . . just drive it on—knock it off to remove. Light in weight, wooden handle absorbs moisture and oil, assuring a firm grip. Designed for lasting performance. Sizes 6" to 16", for all Mill, Flat and Half-round files. Prices as shown.

PRODUCED TO A STANDARD OF QUALITY—NOT PRICE

OVER-TANG
Vertical Handle for Surfacing

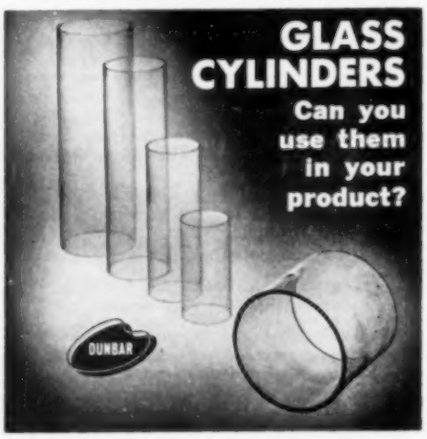
For 12" to 16" Files
Sizes as Above Weight 6 Ounces

Write today to

Remont MANUFACTURING CO.
1310 Meyers Road, Lombard, Illinois

BREVITY—Identify by IEN - 3000 if you write the maker

GLASS CYLINDERS
Can you use them in your product?



For dispensers, merchandise displays, visible hoppers, lighting fixtures, sight feeders, meters, columns or any other applications. DUNBAR offers you a wide variety of cylinder sizes in economical quantities. Or we will fabricate blown glass cylinders to your specifications. We invite your inquiries. Write Dept. 970 for our Glass Cylinder catalog No. C-51.

Dunbar Glass Corporation
DUNBAR, WEST VIRGINIA
NEW YORK • CHICAGO • LOS ANGELES

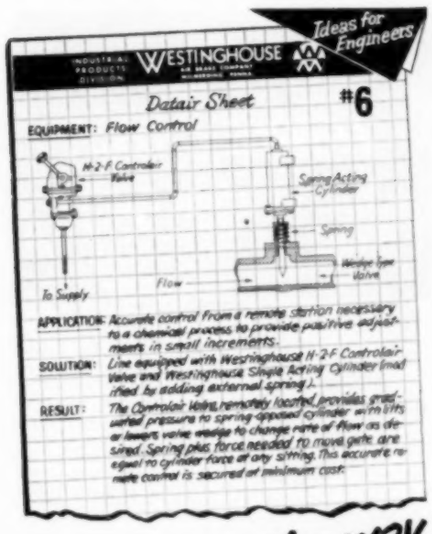
BREVITY—Identify by IEN - 3001 if you write the maker

Naylor's fabrication service provides a dependable source for fittings, manifolds, piping and other equipment to meet your precision requirements. Made in carbon steel, stainless steel (Nos. 304, 316 and 347), monel, nickel, and copper alloys.

Send specifications for quotation.

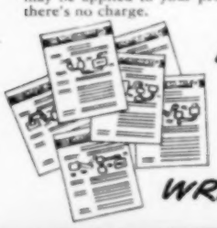
NAYLOR PIPE COMPANY
1235 E. 92nd St., Chicago 19, Ill.
New York Office: 350 Madison Avenue, New York 17, N. Y.

BREVITY—Identify by IEN - 3002 if you write the maker



Typical of the way AIR Solves the Control Problem!

There are as many ways to solve Control Problems with W A B Pneumatic devices as there are Plant Engineers who apply them with marked success. The case outlined above is an example. Our Engineering Data File will provide you with details concerning this case and many others. It is probable that some may be applied to your problems. Send for them—there's no charge.



FREE
This Engineering Data File

WRITE

INDUSTRIAL PRODUCTS DIVISION WESTINGHOUSE AIR BRAKE COMPANY WILMERDING, PENNA.

Factory Branch: EMERYVILLE, CALIF.
Distributors throughout the United States . . . Consult your Classified Directory. Distributed in Canada by: Canadian Westinghouse Co., Ltd., Hamilton, Ontario.

BREVITY—Identify by IEN - 3004 if you write the maker

DIE CASTING . . Hydraulic machine and accumulator, rates 12 lb. aluminum

Source: HYDRAULIC PRESS MFG. CO.
751 Marion Road, Mount Gilead, Ohio

Also adaptable for brass and magnesium

Model 400-AB is a new hydraulic die-casting machine employing a nitrogen accumulator for metal injection speed to 400 fpm. An accumulator bottle filled with nitrogen gas is connected directly to the double-acting hydraulic injection cylinder. Hydraulic fluid under pressure from the variable-displacement pump forces the injection ram back to compress the gas into the bottle. Hydraulic pressure from the pump holds the ram back until the operator is ready to inject the hot metal.

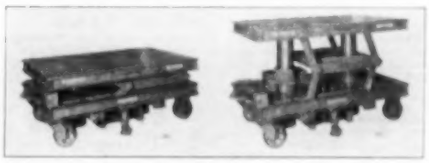
The hydraulic fluid is then bypassed from the pump and the fluid in the forward end of the injection cylinder is released so the expanding nitrogen gas can force the injection ram forward at a high rate of speed determined by exit flow of the fluid from the forward end of the cylinder. Injection pressure build-up is instantaneous and positive. Maximum pressure is achieved when the die is filled to result in porous-free castings.

The machine provides a die-clamping pressure of 400 ton and mounts die plates measuring 38 by 38 inches. Daylight opening is 42 inches. Die movement is through 16 inches. Space between the bars measures 23 by 23 inches. Equipment includes handwheel adjustment for the die clamp and the injection pressure, a hydraulic ejector and dual hydroelectric safety equipment to guard against premature injection.

BREVITY—Identify by IEN - 3005 if you write the maker

ELEVATOR . . Portable hydraulic table positions work at convenient height

Source: SERVICE CASTER & TRUCK CORP.
545 N. Brownswood Ave., Albion, Mich.

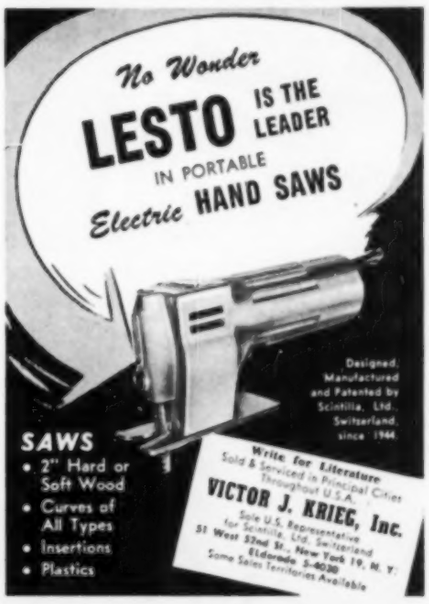


It stops stooping

Lift height is to 42 in. above the floor with this new Electraulic table. Load capacity is to 15 ton. The unit is available in a range of sizes with the top measuring 36 to 54 in. by 66 to 120 inches. The top lowers to 26 in. above the floor. Each assembly carries its own motor-driven power equipment with suitable connectors and control switches to operate from a shop power line. Floor locks hold a set position at a machine.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3006 if you write the maker



BREVITY—Identify by IEN - 3007 if you write the maker

FOR YOUR PANEL DIALCO

A NOVEL and UNIQUE CIRCUIT INDICATOR

DESIGNED FOR NE-51 NEON LAMP
For 110 or 220 volt circuits
The required resistor is an integral part of this assembly —"built-in,"
RUGGED DEPENDABLE LOW IN COST

PATENTED: No. 2,421,321. Cat. No. 521308-997

WILL *YOU* TRY A SAMPLE?

Write on your company letterhead. We will act at once. No charge, of course.

SEND FOR THE 192 PAGE HANDBOOK OF PILOT LIGHTS
Among our thousands of Pilot Light Assemblies there is one which will fit your special conditions. Many are especially made and approved for military use. We pride ourselves on prompt deliveries—any quantity.

ASK FOR OUR APPLICATION ENGINEERING SERVICE

Foremost Manufacturer of Pilot Lights
The DIAL LIGHT COMPANY of AMERICA
900 BROADWAY, NEW YORK 3, N. Y. SPRING 7-1300

BREVITY—Identify by IEN - 3008 if you write the maker

ELIMINATE WIRES

through use of

DU PONT CONDUCTIVE COATINGS

Easily and rapidly applied by spray, brush, dip, stencil to metals and non-conductors, they give a conductive surface of low resistance. One troy ounce covers about 3 sq. ft. Use them in printed circuits for radios, amplifiers, switchboards, meters; for capacitors and couplings; for static shielding to replace foils and cans; for resistors and solder seals. Save hours of time, $$$$ of cost! For more information, send for Bulletin CP-2-1247. E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

DU PONT ELECTROCHEMICALS

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

BREVITY—Identify by IEN - 3009 if you write the maker

Wire Shapes and Forms TO YOUR SPECIFICATIONS

● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. •Popular new Zinc Iridite process adds a bright, durable, economical finish.

Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

SOMMER METALCRAFT CORPORATION
(Formerly JESCHKE Wire and Specialty Company)
300 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

BREVITY—Identify by IEN - 3010 If you write the maker

LITTLE parts that can make a BIG difference in your products

Quadriga SPECIAL STAMPINGS and WASHERS

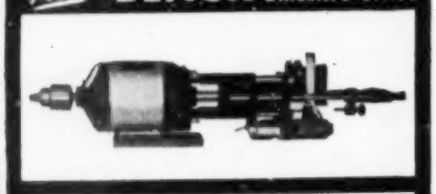
Wear, noise and vibration in your products can be avoided by using Quadriga custom-fabricated washers and stampings—made to your *precise* specifications to suit your particular needs. Tension, spring, formed, drawn, cupped or finishing washers—any material you want quickly supplied. Also wire terminals. Stampings furnished in any design or material. Press capacity to 150 tons, depth of draw to 4". We build dies.

Send B/P. samples, or data for estimate and ask for new illustrated catalog.

THE QUADRIGA MANUFACTURING CO.
215-A West Grand Avenue Chicago 10, Illinois

BREVITY—Identify by IEN - 3011 If you write the maker

New BLACK SELF-CONTAINED DRILLING UNITS



NO SPLINES — Self-contained units, at low cost, for drilling, tapping, chamfering, reaming and similar operations.

NO GEARS — New principle employs traversing motor shaft for work spindle, applies even torque with practically no end play. Drill has air feed for rapid advance to work—hydraulic control to completion of work cycle with uniform feed. Tapping unit controlled so tap follows its own lead without chamfering first thread or stripping threads on return stroke. Easy adjustment—depth accuracy to within .001".

NO CAMS

NO CLUTCHES

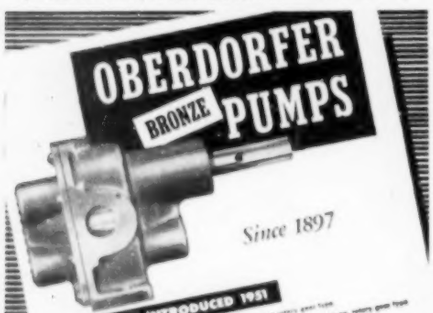
NO REVOLVING WEIGHTS — Operate in any position. Wide range of speeds and sizes.

Write for complete information

BLACK DRILL COMPANY, INC.
1378 EAST 222nd STREET CLEVELAND 17, OHIO

BREVITY—Identify by IEN - 3012 If you write the maker

OBERDORFER BRONZE PUMPS



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Oberdorfer Standard Centrifugal Pump

INDUSTRIAL PUMP DIVISION
OBERDORFER FOUNDRIES, INC. Syracuse, N. Y.

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NEW LITERATURE—*Continued*

MARKING . . Product labels, shipping labels, safety signs, information labels, utility seals, heat-sealing and pressure-sensitive units; color examples, list prices. "Idea Book," 24 pages. Ever Ready Label Corp., 355-59 Cortlandt St., Belleville 9, N. J. **IEN-0301**

MARKING . . "Rejafix" machines to mark or print products from ampoules to paint cans; data summaries for hand to production models, notes on application. "Rejafix Machines," 6 pages. Popper & Sons Inc., 300 Fourth Ave., New York 10, N. Y. **IEN-0302**

MILLING . . End mills and die-sinking cutters; dimensional data with list prices and illustrations for units with two to eight flutes, also ball-nose and angle units. Catalog 23, 6 pages. Metal Removal Co., 1544-48 N. Orleans St., Chicago 22, Ill. **IEN-0303**

MIXING . . "Spiral-Flow" units for rubber and other materials; details on the mixing action, design features, sizes and capacities on four machine models. Bulletin, 8 pages. Stewart Bolling & Co., 3188-92 E. 65th St., Cleveland 27, Ohio **IEN-0304**

MOTORS . . Enclosed fan-cooled motor with integral heat exchanger, 40 to 800 hp.; two-page cut-away view with descriptive captions, air flow diagram. Bulletin 51-B-714B, 6 pages. Allis-Chalmers Mfg. Co., 909 S. 70th, Milwaukee 14, Wis. **IEN-0305**

PACKAGING . . Automatic machine to label containers from fractional-ounce to gallon sizes in cardboard, glass, metal, plastic; specifications and closeup pictures. "Labeling Machines," 4 pages. MRM Co., 189-93 Berry St., Brooklyn 11, N. Y. **IEN-0306**

PACKAGING . . Heat-sealing machines, hand and bench models, for coated or laminated vapor-barrier materials; review of requirements, available models, controls. "The Three R's," 4 pages. Packaging Industries Ltd., 48-52 Church St., Montclair, N. J. **IEN-0307**

PACKAGING . . Liquid filling machines in semi-automatic straight-line, vacuum, gravity types; descriptions, modifications, notes on application, filling speeds. Catalog P-33, 16 pages. Packer Machinery Corp., 30 Irving Place, New York 3, N. Y. **IEN-0308**

PAINTING . . Spray enamel that produces two colors in one coat; notes on how it minimizes surface defects, recommended spray equipment, specifications, list prices. "Multakolor," 4 pages. United Lacquer Mfg. Corp., 1093 W. Elizabeth, Linden, N. J. **IEN-0309**

PIPE . . "Tenite-II" clear plastic pipe; installation examples from company's own plant with notes on fabrication, performance. "Tenite Pipe Installations," 16 pages. Tennessee Eastman Co., 10 E. 42nd St., Room 4010, New York 16, N. Y. **IEN-0310**

PIPE FITTINGS . . "FlexoDisc" bellows-sealed expansion joints for 4 to 30-in. pipe standard, to 144 in. special; illustrated construction, materials. Bulletin 51, 8 pages. Croll-Reynolds Engineering Co., 17 John St., 9th Floor, New York 38, N. Y. **IEN-0311**

PRESSES . . "Hydro-Dynamic" hydraulic presses; standard units and specifications, special-purpose presses, die cushions, work-handling devices, picture applications. Catalog 30-A, 36 pages. E. W. Bliss Co., 1373-77 Raff Road, S. W., Canton, Ohio **IEN-0312**

PRESSES . . Open-back inclinable type, 30 to 200 ton; description, captioned cut-away views to show construction features, dimensions, specifications on seven models. Bulletin 215, 16 pages. Clearing Machine Corp., 6491 W. 65th, Chicago 38, Ill. **IEN-0313**

PRESSES . . Hydraulic equipment to pierce, rivet, trim; cut-away views of power cylinder, basic units, illustrated assemblies, dimensional drawings. Bulletin HP-1 to HP-12, 50 pages. Danly Machine Specialties, 2102 S. Laramie Ave., Chicago 50, Ill. **IEN-0314**

PROCESSING . . Counter-current solvent extractor; color-coded schematic diagram to show centrifugal operation and liquid flow, application fields for the unit. "Luwesta Extractor," 4 pages. Centrico Inc., 233 Broadway, Room 3604, New York 7, N. Y. **IEN-0315**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3013 If you write the maker

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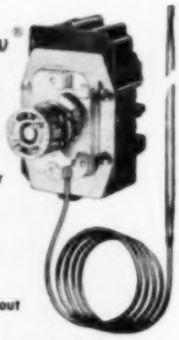

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A simple turn of the dial automatically cuts in two elements for quick pre-heating. Shortly before pre-heat temperature is reached, control cuts out No. 1 element to minimize overshoot; then automatically cuts out No. 2 element, then automatically maintains temperature by recycling No. 2 element.

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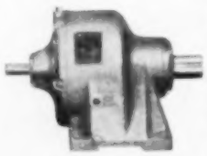
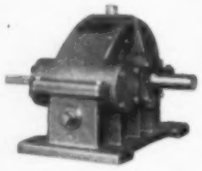
TRIPLE CHECK for your security

Worm Gear Type



Pat. Differential Type



Helical Gear Type

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WINSMITH SPEED REDUCERS

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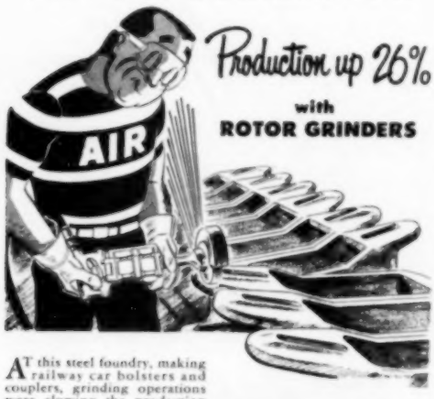

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AT this steel foundry, making railway car bolsters and couplers, grinding operations were slowing the production schedule.

PROBLEM: Need for more finished pieces per day. Reduction of high wheel cost. Reduction in "down time" of equipment for repairs. Formerly used 8", 15-pound grinders.

SOLUTION: Rotor Application Engineer recommended 6", 6,000-rpm Rotor Grinders. Weigh only 9¼ lbs.

RESULTS: Production stepped up 26%. Less operator fatigue. Wheels last longer. Finishes are better.

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Source: CULLEN MFG. CO.
1316-20 Clark St., Racine, Wis.

About $5 without gage

Model 200 is new design of the Erick Magna Holder to position a dial-type indicator gage or a magnifying glass at a machine or ferrous table top. The base exerts a 45 to 50-lb. magnetic pull by means of its permanent Alnico magnet. It mounts a holder rod measuring 6½ in. in length made of ¼-in. non-magnetic stainless steel. The rod is set a ball socket for universal adjustment. The socket forms a part of a screw-adjusting head on the magnetic base for final positioning. Base dimensions are 3½ by 1⅛ by 1 inch. Weight is 14 ounces.

BREVITY—Identify by IEN - 3021 If you write the maker

CLEANING . . Powder material dissolves in water to clean aluminum

Source: TURCO PRODUCTS INC.
Terminal Annex 2649-A, Los Angeles 54, Calif.

Meets requirements of MIL-C-5543

Aviation is a new dry powder material for use in the ratio of 4 to 6 oz. per gal. of water. It applies at 175 to 185 deg. F. in a steel tank for production and maintenance cleaning of aluminum parts. It also is suited for use on magnesium and other non-ferrous metals.

The powder is non-dusting and will not harden in its container. It dissolves quickly in hot water to a clear stable solution to remove stubborn solids, marking inks. Cleaning is followed by a water rinse at 140 to 160 deg. F. Rapid cleaning action results when the solution is agitated.

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FLOOR . . Rubber mat, geometrical design, 30 inch width

Source: UNITED STATES RUBBER CO.
1230 Sixth Ave., New York 20, N. Y.

Four colors, black, maroon, red and green, are available in a new rubber mat with a three-dimensional pattern as shown in the illustration. It is available in cut sizes measuring 24 to 30 in. or by the yard in 30-in. width. It is suited for general application.

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BREVITY—Identify by IEN - 3024 If you write the maker

BREVITY—Identify by IEN - 3025 If you write the maker

Production and maintenance men can count on Masoneilan Pressure Reducing Valves to give accurate control of steam, water or air. Constructed to high quality standard, they give long-lived service . . . require minimum of maintenance because they are *built up to the job* not down to price.

No. 33 for steam or air service — sizes from ½" to 3". Reduced pressure ranges 2-20; 20-40; 40-100 psi. Maximum working pressure 200 lbs.

No. 227 for water service — sizes ½" to 2". Reduced pressure ranges 10 to 60 psi. Maximum working pressure 150 psi. Also available for air service from ¼" to 1".

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- [ ] TDC-119D — Combined Standard Steel Lists of AISI and SAE.
- [ ] TDC-136 — Chemical Compositions of Low and Intermediate Alloy Steel Tubes (B&W Croloys ½ to 9).
- [ ] TDC-141 — B&W Alloy Steel Tubing — medium carbon grades — for mechanical uses.
- [ ] TA-1559 — B&W Steel Tubing for Process Industries.
- [ ] TB-329 — B&W Heat Exchanger & Condenser Tubes.

(TA-1644S)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION

General Offices and Plants:
Beaver Falls, Pa.—Seamless Tubing; Welded Stainless Steel Tubing
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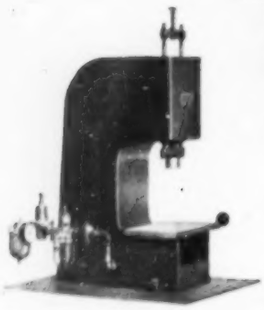
BREVITY—Identify by IEN - 3027 if you write the maker

6 WAYS TO CUT "PER-PIECE" COST ON PUNCH PRESS WORK



1. INCREASED OUTPUT — up to 128 strokes per minute
2. GREATER ACCURACY — pre-select ram pressure — pre-select ram stroke — for close tolerances
3. PRE-SET RAM MOVEMENT — from slow squeezing action to fast punch press blows
4. LOW OPERATING COST — Single acting air cylinder uses little air, low oil consumption.
5. WIDE WORK RANGE — Models ¼ to 10 tons pressure — up to 4" stroke.
6. CUTS OPERATOR FATIGUE — Simple — Easy — Safe — Practical. Little physical effort. Either hand or foot operated.

Studebaker AIR-HYDRAULIC Gap Type Presses

All steel welded for longest life on stamping, riveting, assembling, forming, punching, cutting — all punch press jobs.

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Hills McCanna Valves are suitable for air, water, gases, volatile and viscous substances, semi-solids, etc. Hand-wheel or lever operated or choice of automatic or remote operators. Choice of 14 diaphragm materials; 49 body materials. Sizes ⅜" to 14". Write for catalog.

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Also manufacturers of — Proportioning Pumps
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HILD Heavy-Duty PORTABLE VACUUM

Always Ready for Wet or Dry Dirt Removal

No adjustments to make . no filter to change when switching to wet pick-up work. Moisture in vacuum air stream cannot damage Hilo Bi-Pass Motor. Special attachments for scores of clean-up jobs. Two sizes 10 or 40 gallon liquid capacity.

SWEEPS Dust and Dirt

DRIES Scrubbed Floors

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NEW LITERATURE — Continued

PROCESSING . . Equipment for chemical service, properties of porcelain, stoneware, plastic, graphite materials and equipment available in each. Bulletin CHE-B1, 20 pages. General Ceramics & Stoneite Corp., 41 Crows Mill Road, Keasbey, N. J. **IEN-0316**

PROCESSING . . Agitators, clarifiers, classifiers, rotary coolers and dryers, filters, ball and rod mills, thickeners, condensed summary on available equipment, detail literature references. Bulletin 196-A, 8 pages. Hardinge Co., 238-42 Arch St., York, Pa. **IEN-0317**

PROTECTING . . Transparent plastic machine guard with Alnico magnet mounting base that positions adjustably; sizes and list prices on Type-B Magnetic Grip-Shields. "Stand Guard," 4 pages. Dilley Mfg. Co., 1644 Ansel Rd., Cleveland 6, Ohio **IEN-0318**

PUMPS . . "Tornado Versatal" pneumatic pumps to deliver from original containers such materials as paint, putty, glue, roof coatings; selection data on 22 models. Bulletin 55-1, 6 pages. Stewart-Warner Alemite, 1828 Diversey Parkway, Chicago 14, Ill. **IEN-0319**

PUMPS . . Centrifugal unit for corrosive and abrasive process liquids; exploded view to show construction, stuffing-box design, size chart to 1,300 gpm. Bulletin 08-B-6615B, 6 pages. Allis-Chalmers Mfg. Co., 900 S. 70th St., Milwaukee 14, Wis. **IEN-0320**

PUMPS . . Fluid for use in diffusion-type vacuum pumps; specification summary on nine types, application notes on each, characteristic curves. "Vapor Pump Fluids," 4 pages. DPI Div., Eastman Kodak Co., 341-45 State St., Rochester 4, N. Y. **IEN-0321**

PUMPS . . Centrifugal sanitary type pumps made of bronze; construction highlights on standard and portable designs, notes on special construction modifications. Bulletin, "Pumps," 4 pages. Ensinger Union Corp., P. O. Box 71-A, Angola, N. Y. **IEN-0322**

PUMPS . . Rotary liquid pumps in rotating-plunger and helical-rotor designs; descriptions, condensed tables of capacities, dimensions, pipe connection sizes. Bulletin L-51, 4 pages. Kinney Mfg. Co., 3564 Washington St., Boston 30, Mass. **IEN-0323**

PUMPS . . Centrifugal units for chemical and process use; picture review with a summary on available ranges, typical sectional drawings. Bulletin W-350-B11A, 12 pages. Worthington Pump & Machinery Corp., 123 Worthington Ave., Harrison, N. J. **IEN-0324**

RECORDING . . "Tel-O-Set" strip-chart instrument for graphic panels and pneumatic lines; schematic with typical operating description, four pneumatic circuits. Sheet 560, 6 pages. Brown Instruments Div., 4636 Wayne Ave., Philadelphia 44, Pa. **IEN-0325**

RECTIFYING . . "Nobatron" regulated dc power supply units with ac input; operating principle and schematic circuit, data on models from 6 to 1,000 volts and 5 to 350 amperes. Catalog E-651, 16 pages. Sorensen & Co., 373-77 Fairfield, Stamford, Conn. **IEN-0326**

REFRIGERATING . . Industrial mechanical freezers to minus 165 deg. F. to test, harden, stabilize, shrink fit; specifications on 50 models. Bulletin, "Industrial Freezer," 4 pages. Webber Appliance Co., 2738-42 Madison Ave., Indianapolis 3, Ind. **IEN-0327**

RESISTORS . . Variable units, some with switches, for military communication equipment; performance characteristics, ratings, service temperature range. Data Sheet 155, 6 pages. Chicago Telephone Supply Corp., 1140-44 Beardsley Ave., Elkhart, Ind. **IEN-0328**

SAWING . . "Contour-Matic" machine to band saw, slice, grind, file, slot metal and other materials in production; bands and their uses, machine data, applications. Bulletin 49-201, 16 pages. DoAll Company, 252-56 N. Laurel Ave., Des Plaines, Ill. **IEN-0329**

SEALING . . Packings for shaft, rod, valve stem, piston, utility service; illustrated review to serve as quick reference in selection, condensed data. "Packings for the Power Plant," 6 pages. Johns-Manville, 22 E. 40th St., Room 1201, New York 16, N. Y. **IEN-0330**

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Tedious separate lock washer handling is completely eliminated. Specially designed SHAKEPROOF® Lock Washers are **pre-assembled** to screws —two parts are handled as one! Held on by the rolled thread, the washer can't drop off!

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Such precision work typifies simply *one* of Lycoming's services. Long famous for aircraft engines, Lycoming also meets the most exacting and diverse requirements for packaged power, for product development, for high-volume production.

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LOOK TO **LYCOMING** FOR RESEARCH FOR PRECISION PRODUCTION.

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—**YOU** demand precision, production line shape cutting . . .

—**YOU** work with steel plates, slabs, billets, or forgings . . . in metal up to 6-inches or more in thickness . . .

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NEW **DIXIE** PROCESS GRINDERS

for **More Profit More Savings More Quality** *in every grinding operation*

The revolutionary DIXIE method of "super-cool" grinding, precision-engineered and manufactured means victory in the battle of production against man-hours. Grinds anything grindable, from feathers to fire bricks.

Write today on your letterhead for more details of the DIXIE Process Grinder.

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...Give LASTING PROTECTION Where Ordinary Bellows Fail

Breeze welded diaphragm bellows meet the operating life cycle of any equipment in which they are used *because every Breeze bellows design is individually engineered and built for the job.*

Breeze has no "stock bellows," but if you have a vibration problem in ducts, large or small, or want permanently sealed valve enclosures in any type of piping system, or need bellows for torque transmission or other uses, Breeze experience can quickly provide the answer . . . and production can meet your requirements.

A Breeze bellows is dependable because each diaphragm is designed to work well within its elastic limit. This is accomplished by thorough analysis of each application and careful design of the bellows to withstand all requirements. "Job engineering" each individual type eliminates makeshifts, assures efficient performance.

Breeze bellows are made in stainless steel, inconel, monel, nickel, steel, or other weldable alloys.

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BREEZE CORPORATIONS, INC.
41-V S. Sixth St., Newark 17, N.J.

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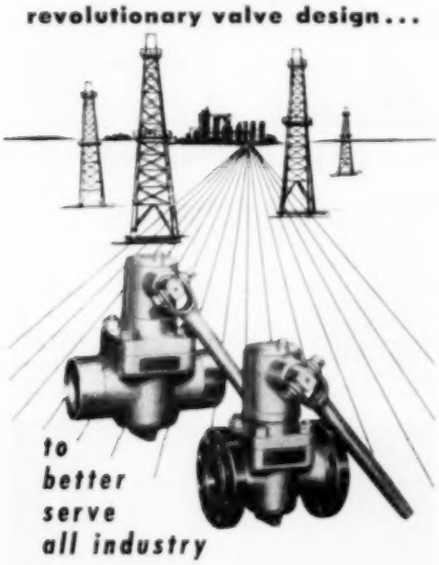

to better serve all industry

The remarkable Cameron Non-Lubricated Lift Plug Valve combines all of the advantages of gate and plug valves without retaining the disadvantages of either type. In addition, the seat which is not attached to the valve body, being a separate member, utilizes pressure forces to improve the seal and eliminate the effects of body distortion; Non-Lubrication—easy operation and a tight seal are assured without the aid of grease, a particularly desirable feature in industries where cleanliness is essential; and an ingenious operating mechanism which, for the first time, makes practical use of the lift-turn-reseat operating principle.

Offered first for highly corrosive acid and extreme pressures in oil industry service, the Cameron Non-Lubricated Lift Plug Valve is now in heavy demand because of its low maintenance and fine performance in all industrial services.

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Represented in the sterling area by: British Oilfield Equipment Co., Ltd., Duke's Court, St. James's, London S.W.1, England.

Cameron NON-LUBRICATED LIFT-PLUG VALVES

▼ BREVITY—identify by IEN - 3037 if you write the maker ▼

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Source: REED ENGINEERING CO.
1005-15 W. Fairview Ave., Carthage, Mo.

From $1,240 and $1,420

Two ratings for work load capacity are nominal at 1,000 and 2,500 lb. in this new positioner. It mounts a 30-in. table at 36 in. above the floor in horizontal position. The table tilts through a 135-deg. arc. Rotating speed for Model P-10 is between 0.2 and 2 rpm. It is between 0.15 and 0.5 rpm. for Model P-25R. The Reeves Motoldrive operates on 220/440-volt 3-phase 60-cycle ac. It is reversible at a controller on the side of the housing. There is no backlash. Floor space measures 42 by 40 inches.

▼ BREVITY—identify by IEN - 3038 if you write the maker ▼

PLASTIC MOLDING . . Hydraulic press for compression and transfer action

Source: F. J. STOKES MACHINE CO.
5956 Tabor Road, Philadelphia 20, Pa.

Details assembled in Bulletin 511

Rating is 100 or 200 ton for the main compression stroke. Stroke length is maximum at 12 and 15 in. in this new combination of the company's previously developed Model 726 compression molding press and the new assembly known as Model 727 in which a transfer ram has been added. The transfer stroke measures 12 and 15 in. with ram speed at 220 and 195 ipm. in the closing movement, 31 and 28 ipm. in the pressing action.

Operation is governed by the company's Bar Controller. Adjustment can be made for each phase of the operating cycle by positioning button-type stops on graduated bars while the machine is either standing or in operation. Control centers at a single electric timer. Maximum opening, platen to head with the press open, is 28 in. for the 100-ton machine, 35 in. for the 200-ton assembly of the new combination machine.

▼ BREVITY—identify by IEN - 3039 if you write the maker ▼

CONNECTOR . . Flush receptacle for use with T-shaped polarized plugs

Source: RODALE MFG. CO.
Minor & 6th Sts., Emmaus, Pa.

Ask for sample

Catalog 1240 is a new "T" polarity receptacle with a Bakelite housing to mount in a single outlet plate. It rates 20 amp. on 250-volt ac. and is Underwriters' listed. It prevents blowing fuses by making it impossible to insert a parallel-blade plug into a receptacle wired for higher current. Companion items are a two-wire cap and a cord connector.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—identify by IEN - 3040 if you write the maker ▼

'Tugit' is the world's handiest portable tool for plant maintenance, service truck and construction crews. It stretches wire and cable, handles machinery and pipe, and does thousands of awkward, lifting, shifting, erecting, and dismantling jobs. Saves effort, time, and money.

The versatile 'Tugit' Hoist is built in one and two-ton sizes. It fits any tool box. Compactness, light weight, and powerful geared lever action make the 'Tugit' easy to operate at any angle, even in tight quarters. Spots one-ton loads as close as ⅛ of an inch. Write for Bulletin No. 388, which gives all details.

'TUGIT' HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" Cranes, "Budgit" and "Load Lifter" Hoists and other lifting specialties. Makers of "Ashcroft" Gauges, "Hancock" Valves, "Consolidated" Safety and Relief Valves, and "American" Industrial Instruments.

▼ BREVITY—identify by IEN - 3041 if you write the maker ▼

GE TIME SWITCHES ...via Graybar

Synchronous, Telechon-motor drive provides reliable automatic operation

Type T-27 — for general purpose use

230 volt A.C. unit is equipped with removable and adjustable riders to facilitate settings. Can be furnished with skip-a-day omitting device. Available in 60, 50, and 25-cycle ratings.

Type TSA-14 — for control of repeating cycles

Timer permits operation without respect to time of day. "On" time can be varied between 1 and 94 per cent of total time cycle.

Type TSA-10 — for process timing

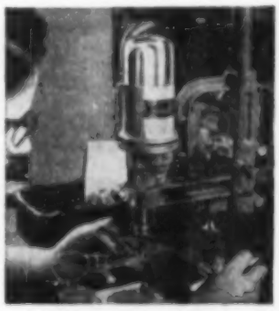
Unit is ideal for operation of electrically operated machines. It is readily adjusted over a wide range of operating cycles. Resetting is automatic, and unit can be supplied with either normally open or normally closed contacts.

For complete information on G-E Timers check with your local Graybar Representative. Graybar Electric Co., Inc., Executive offices: Graybar Building, New York 17, N. Y. 713-123

Call Graybar *first* for . . . Everything Electrical GraybaR

▼ BREVITY—identify by IEN - 3042 if you write the maker ▼

Millers Falls No. 52 Screw Driver



CUTS COSTS 64%

on a job that "couldn't be done" with power

Driving tiny optical screws (.045" diam., 90 threads per inch) in delicate eye glasses — for years this operation has been considered impossible for a power driver.

Yet today a Millers Falls No. 52 is doing the job — quickly, accurately, safely — and saving 64% in labor costs for one of the nation's leading optical manufacturers.

The secrets: 1) Millers Falls patented, super-sensitive "Adjustomatic" Clutch, which is capable of controlling torque to inch-ounces. 2) Ingenious special fixtures developed as a result of Millers Falls wide experience in solving similar problems.

Delicate or High Torque Driving — No Job Too Tough for Millers Falls Electric Screw Drivers

Again and again, manufacturers have found the answer to faster, more economical assembly in Millers Falls Electric Screw Drivers. Write for complete details. Capacities for machine screws up to ⅜", for wood screws up to No. 20 — 2½". Full information on request — or better yet, let us arrange for a convincing demonstration on your own work.

MILLERS FALLS TOOLS
The Mark of Superiority

MILLERS FALLS COMPANY
Dept. P, Greenfield, Mass.

▼ BREVITY—identify by IEN - 3043 if you write the maker ▼

AUTOMATIC PROTECTION OR CONTROL for your heating process

...WITH ALNOR PYROTAC

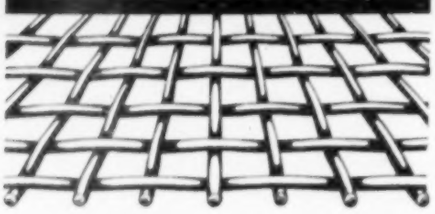
Here's a simple, low-cost way to obtain *AUTOMATIC PROTECTION* against damage due to excessive temperatures . . . safeguard your investment in heating equipment and materials in process. This precision-built instrument constantly indicates temperature of the heated equipment and sounds an alarm and/or shuts down the heated circuit at a safe, pre-set temperature. It may also be used as a *CONTROLLER* on a process requiring shutdown upon reaching a final process temperature—such as ceramic kilns, molds, etc. Automatic thermocouple break protection assures safety if couple or extension wires should break.

Ask your Alnor representative for details on this sturdy, precise instrument. You'll find the price of less than a hundred dollars unusual for an instrument of this type. Write for bulletin that contains complete description and wiring diagrams of actual applications. Illinois Testing Laboratories, Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

▼ BREVITY—identify by IEN - 3044 if you write the maker ▼

CAL-WIC WIRE CLOTH



meets all STANDARD and SPECIAL requirements

Either as original equipment or for specialized uses in filtering, screening, grading, cleaning or processing, Cal-Wic Wire Cloth is available in the right weave, mesh and weight to give you long-wearing, dependable service.

Made in different types of metals and alloys for high resistance to chemical action, corrosion, abrasion and temperature extremes.

For additional information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Clinton, Massachusetts

CAL-WIC INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

▼ BREVITY—identify by IEN - 3045 if you write the maker ▼

DeZURIK Easy-Operating PLUG VALVES WON'T LEAK

DeZURIK ECCENTRIC PLUG & ECCENTRIC SEAT CLOSE DEAD SHUT OR OPEN FULL WITH QUARTER TURN

On any flow—in any service—valve leakage STOPS when you install DeZurik Plug Valves. Their rubber-faced, metal-cored plugs seal airtight every time . . . without friction, without lubrication, without fail. Ask for the new DeZurik Catalog.

DeZURIK SHOWER CO.
SARTELL, MINNESOTA

▼ BREVITY—identify by IEN - 3046 if you write the maker ▼

HERB KNOWS THE SYMPTOMS OF EVERY AILMENT—

But he mistakenly thinks what this O-B GLOBE VALVE needs is a little tightening. All it really needs is a new O-B COMPOSITION DISC.
Send for free book on valve installation tips.

Ohio Brass VALVES
MANSFIELD OHIO

NEW LITERATURE—Continued

SEALING . . O-ring hydraulic packings for military applications, listed by AN numbers with cross references, dimensions, compounds. "AN Handbook," letterhead request, 10 pages. Precision Rubber Products, 3108-12 Oakridge Drive, Dayton 7, Ohio **IEN-0331**

SEALING . . Vacuum-pressure impregnating equipment to insulate, waterproof, fireproof, seal a variety of products; standard units, sizes, modifications, uses. Bulletin 51-B, 4 pages. Process Industries Engineers, 5638 Friendship Ave., Pittsburgh 6, Pa. **IEN-0332**

SEALING . . Flexible metallic packings; service recommendations, sizes, packaging on metal-insert, all-metallic, high-temperature, braided-copper types. "Flexible Metallic Packings," 8 pages. Raybestos-Manhattan Inc., 47 Thomas St., Manheim, Pa. **IEN-0333**

SEPARATING . . Continuous centrifugal machine for chemical process use; operation, specifications on three models, data sheets on typical uses. Bulletin 4051, 4 pages. Merco Centrifugal Co., 1062-47 Sansome St., San Francisco 11, Calif. **IEN-0334**

SIGNALING . . Panel-type emergency alarm stations for audible and visible warning of a remote condition; how-it-works description, models, specifications. "Autocon Multalarms," 4 pages. Automatic Control Co., 1003-7 University Ave., St. Paul 4, Minn. **IEN-0335**

SOLDERING . . Motor-driven gun to feed and melt solder or brazing wire to 200 fpm. in seam or skip work; typical schematic layout, performance examples. "Mogul Gun," 8 pages. Metallizing Co. of America, 3518 W. Carroll Ave., Chicago 24, Ill. **IEN-0336**

SWITCHES . . Type B-2K outdoor hook-operated disconnect switches, 600 to 1,200 amp., rating 7.5 to 161 kv.; details on latching mechanism, models, dimensional drawings. Bulletin 5104, 6 pages. Delta-Star Electric Co., 2435-39 Fulton, Chicago 12, Ill. **IEN-0337**

TESTING . . Hydraulic universal testing machines to 400,000 lb.; description on four models, cut-away views to show operating mechanisms, ranges, grips. Catalog RU-7-52, 32 pages. Riehle Testing Machines Div., 502-56 12th Ave., East Moline, Ill. **IEN-0338**

TESTING . . Soontag Model 12-H universal tesing machine, 12,000 lb. capacity; illustrated design features, notes on construction, scale ranges, equipment. Bulletin 336, 4 pages. Baldwin-Lima-Hamilton Corp., Paschall P. O., Philadelphia 42, Pa. **IEN-0339**

TESTING . . Pickup heads for linear vibration, torsional vibration, acceleration; operating principles, detail specifications, associated equipment. Bulletin CEC-1503, 8 pages. Consolidated Engineering Corp., 302 N. Sierra Madre Villa, Pasadena 8, Calif. **IEN-0340**

TESTING . . Analytical instrument that combines functions of colorimeter, nephelometer, fluorometer in testing products from acetone to zinc; schematic, operation. "Nefluoro-Photometer," 16 pages. Fisher Scientific Co., 719 Forbes, Pittsburgh 19, Pa. **IEN-0341**

TESTING . . Machine to determine washability and abrasion resistance of paint, varnish, waxes, other products; description, standard tests performed, modifications. "Model 105," 4 pages. Henry A. Gardner Lab., 2725 Elm St., Bethesda 14, Md. **IEN-0342**

TESTING . . Type 1534-A polariscope for photo-elastic stress analysis; description, application notes on static and dynamic testing, use of Strobolume flash illumination. Bulletin 765-A, 8 pages. General Radio Co., 273-77 Mass. Ave., Cambridge 39, Mass. **IEN-0343**

TESTING . . Unit to check condition of electronic tubes; data on ten models from portable to laboratory types, notes on functions. "Dynamic Mutual Conductance Tube Testers," 4 pages. Hickok Electrical Instr. Co., 10544-48 Dupont, Cleveland 8, Ohio **IEN-0344**

TESTING . . Flaw-detection field inspection service for equipment and parts using a variety of non-destructive methods; review of these methods, examples. Folder 497-F, 4 pages Magnaflux Corp., 5914 Northwest Highway, Chicago 31, Ill. **IEN-0345**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

▼ BREVITY—identify by IEN - 3047 if you write the maker ▼

Special TYPES ARE STANDARD at Fairbanks

HAND TRUCKS of special design required for many industries are run-of-the-mill stock items in the Fairbanks catalog. There's a type for every need . . . of sturdy design, high grade materials . . . and built to last. Here are some typical examples. If you don't see what YOU need—ask for it.

LEVER TRUCKS (Pry-Bars)
Tremendous leverage to handle heavy cases, crates, machines, etc. Raises, loads 9 in. from the floor. 5, 6 and 7-foot lengths.

Fig. 500, JACK and PLATFORM TRUCK
Efficient, low cost lift jack and platform system increases production, cuts costs. Many standard platform sizes available; special sizes to order.

Fig. CC-10 TIER TRUCK
Beverages, cartons and crates can be handled more efficiently. High stacking cuts down storage space. Capacity 750 pounds.

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Branches: New York 3 Pittsburgh 22
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VALVES · DARTS & PIC UNIONS · TRUCKS · CASTERS

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Full facts on self-balancing electronic recording!

Interested in speedier, more accurate recording?

Get the story on Bristol DYNAMASTER . . . the electronic way to measure, record and control resistance, capacitance, inductance, current, or voltage—or any variable that can be converted into those quantities. Available as a-c bridge or d-c potentiometer.

Write for free DYNAMASTER bulletin. The Bristol Company, 107 Bristol Road, Waterbury 20, Conn.

BRISTOL
AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

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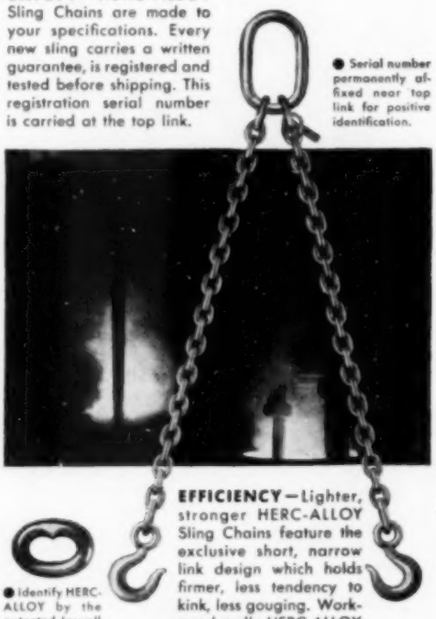
NONE BETTER . . .
America's First and Safest
HERC-ALLOY
SLING CHAINS

STRENGTH—Size for size, no other sling chain offers a greater tensile strength. HERC-ALLOY will not crystallize—never requires annealing.

SAFETY—HERC-ALLOY Sling Chains are made to your specifications. Every new sling carries a written guarantee, is registered and tested before shipping. This registration serial number is carried at the top link.



● Serial number permanently affixed near top link for positive identification.

● Identify HERC-ALLOY by the patented Inswell side weld with the extra swell of metal on the inside of the link.

EFFICIENCY—Lighter, stronger HERC-ALLOY Sling Chains feature the exclusive short, narrow link design which holds firmer, less tendency to kink, less gouging. Workmen handle HERC-ALLOY with less effort.

PREFERENCE—Men who buy and use sling chains are influenced only by facts learned through experience. HERC-ALLOY Sling Chain preference has been built up over the years, not just by what we say, but by how HERC-ALLOY performs on the job.

Write for Data Book No. 3 which contains much useful manufacturing and application information on HERC-ALLOY Sling Chains.

COLUMBUS McKINNON CHAIN CORPORATION
(Affiliated with Chisholm-Moore Hoist Corp.)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
District Offices: New York · Chicago · Cleveland
Other Factories at Angola, N. Y., Dixon, Ill., St. Catharines, Ont., Cuba, and Johannesburg, South Africa.

BREVITY—Identify by IEN - 3051 If you write the maker

low level cost... all level comfort with DUNHAM FIN-VECTOR RADIATION

Put Dunham Fin-Vector Radiation *at any height* along outside walls and you get the heat you need—for *less*.

Materials used are those best suited to rapid heat transfer. Finned pipe heating elements can be installed one, two or three tiers high.

Light in weight, Fin-Vector requires few supports . . . is easy to handle. Three cover designs—various sizes and types of heating elements—to choose from. Made in lengths from 2 ft. to 10 ft. in 6 in. increments to reduce on-the-job cutting, speed assembly.

For further information, WRITE FOR BULLETIN 1251-11.

C. A. DUNHAM CO.
400 W. Madison St., Chicago 6, Ill.
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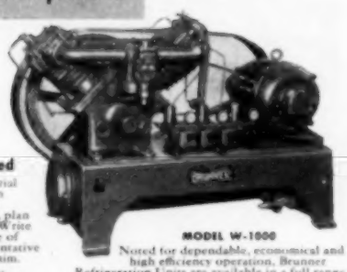
DUNHAM
HEATING SYSTEMS AND EQUIPMENT

BREVITY—Identify by IEN - 3052 If you write the maker

BRUNNER SINCE 1906

REFRIGERATION answers many production problems

Industry is using refrigeration in many new and unusual ways to step up volume, control quality, reduce unit costs, improve working conditions. Brunner's experience in helping manufacturers and processors make better use of refrigeration and air conditioning is yours for the asking.



Brunner is represented in all industrial areas by men qualified to recommend, plan and install. Write for the name of your representative and talk to him.

Would you like a copy of the new Brunner Catalog?

MODEL W-1000
Noted for dependable, economical and high efficiency operation. Brunner Refrigeration Units are available in a full range of capacities from ¼ hp. to 75 hp. . . . 60 air and water cooled models offering many exclusive application advantages.

BRUNNER MANUFACTURING CO., UTICA 1, N. Y., U. S. A.

BRUNNER SINCE 1906

AIR CONDITIONERS—Self Contained Four Sizes . . . 5, 5, 7½ and 10 hp.
For remote installations—Brunner Condensing Units to 75 hp.

BREVITY—Identify by IEN - 3053 If you write the maker

ANGLE STEEL BENCHES... *Increase* Workers' Output!

Workers produce better with less fatigue using ANGLE STEEL shop equipment because it has . . . Correct heights, smooth surfaces with inclosed backs and ends, rigid stability, scientific bracing, convenient shelves and drawers. Benches are available in various stock styles, heights, widths and lengths with wood or metal tops. Handsome baked enamel finish. Suitable for single unit or continuous bench set-ups.

Helpful literature . . . FREE

ANGLE STEEL, Inc.
Dept. 3 Plainwell, Michigan

SEND FREE Literature . . . we're interested in: ____Benches ____Machine Tender Trucks ____Stools.

Company _____

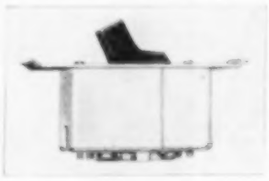
My Name _____ Title _____

Address _____

BREVITY—Identify by IEN - 3054 If you write the maker

SWITCH . . Toggle design for appliances at high temperatures

Source: JOHN I. PAULDING INC.
51 Kings Highway, New Bedford, Mass.



Face plate as specified

Stoves, hot plates are typical examples of application for this new double-pole appliance switch. It will operate satisfactorily in intermittent temperatures to 600 deg. F. and sustained temperature to 450 deg. F. It is suited for use in new construction or as a replacement unit. Overall housing dimensions are about 1¾ by 1¼ by 1¼ inch.

The snap-acting mechanism is enclosed in molded electrical porcelain. A plastic-molded heat-resistant material is used for the breaker bars and an electrical-porcelain barrier separates the terminals with a molded plastic barrier to prevent arcing. The design provides for wiring at the rear and screw terminals. The switch is approved by Underwriters' Laboratories.

BREVITY—Identify by IEN - 3055 If you write the maker

PAINTING . . Quick drying liquid for maintenance corrosion proofing

Source: UNITED LABORATORIES INC.
16803 Euclid Ave., Cleveland 12, Ohio

Where time is a factor

No. FD-425 is a new quick-drying paint available in a number of colors, plus clear and aluminum, for maintenance application indoors and outside. Application is by brush. The liquid dries in about 10 min. under ordinary conditions to provide a semi-gloss coating that is resistant to attack by salt air. The paint will normally cover in one coat. It will withstand temperatures between minus 100 and plus 250 deg. F. Application can be made over damp surfaces, galvanized metal, new or rusted metals of all types.

BREVITY—Identify by IEN - 3056 If you write the maker

WOOD WORKING . . Circular saw blades for stationary or portable machines

Source: SIMONDS SAW & STEEL CO.
468-72 Main St., Fitchburg, Mass.

Si-Clone trade names new line of circular saw blades available in rip, regular cut-off, flooring cut-off, fine tool cut-off, easy cut, planer, combination, carbide-tipped, dado, nonferrous and friction types. The blades are available in diameters to 12 in. and can be specified with center holes or special shapes for use on stationary or portable machines.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3057 If you write the maker

"Save time in Shipping with the 5-ACTION machine . . . in the Office, too."

New it's yours for Shop and Office.

Consecutive, duplicate, triplicate, quadruplicate and repeat movements all in one machine. Lightweight aluminum frame, comfortable plastic handle, 6 figure wheel capacity. Gothic or Roman figures.

Write for catalog E.

THREE QUARTERS OF A CENTURY'S SERVICE

WM. A. FORCE
& COMPANY, INCORPORATED
64 White Street, New York 13, N. Y.

BREVITY—Identify by IEN - 3058 If you write the maker

ROLLED STEEL PIPE FLANGES for all types of service

INQUIRIES INVITED
STANDARD STEEL WORKS DIVISION
BURNHAM, PA.

BALDWIN-LIMA-HAMILTON
General Offices: Philadelphia 42, Pa. Offices in Principal Cities

BREVITY—Identify by IEN - 3059 If you write the maker

"HAYNES STELLITE" Trade-Mark GUIDE ROLLS

Resist Abrasion . . .
Thermal and Mechanical Shock

Because HAYNES STELLITE guide rolls have no temper to lose when handling hot steel, they have excellent strength and wear resistance in service. The guides also have good resistance to thermal and mechanical shock.

Loose particles of steel will not adhere to guides made of HAYNES STELLITE alloy. They are extremely resistant to oxidation at high temperatures, have a low frictional coefficient, and will take and keep a high polish.

For further information about HAYNES STELLITE alloy guides for handling bars, rods, and wire, write to our General Offices in Kokomo, Indiana.

Haynes Stellite Company
A Division of Union Carbide and Carbon Corporation
UCC
General Office and Works: Kokomo, Indiana
"Haynes Stellite" is a trade-mark of Union Carbide and Carbon Corporation.

BREVITY—Identify by IEN - 3060 If you write the maker

HIGH QUALITY—LONG SERVICE

GRAVER

BULK STORAGE TANKS

Since 1857, there has been a Graver Storage Tank to meet each specific need.

Horizontal — to 30,000 gallon capacity
Vertical — to 25,000 gallon capacity
Underground — to 30,000 gallon capacity

Every Graver Tank is all-welded, meets pertinent codes and standards, and is tested and inspected before shipment.

GRAVER TANK & MFG. CO., INC.
EAST CHICAGO, INDIANA
NEW YORK • CHICAGO • PHILADELPHIA • WASHINGTON
DETROIT • CINCINNATI • CATASAUQUA, PA.
HOUSTON • SAND SPRINGS, OKLA.

BREVITY—identify by IEN - 3061 if you write the maker

For Efficient Feeding

SYNTRON
"Vibra-Flow"
VIBRATORY FEEDERS

Handle most types of bulk materials — at variably controlled rates from pounds to hundreds of tons per hour to crushers, driers, belt conveyors, etc.

SHORT FEEDERS — LONG CONVEYORS
GRIZZLIES — SCREENS
Write for Illustrated Catalog Folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

BREVITY—identify by IEN - 3062 if you write the maker

VULCAN
ELECTRIC HEATING UNITS
FINNED STRIP

For Blower Type Electric Unit Heaters, as oven or space heaters in dryers, pump rooms, switch towers, etc.

SHEATH, of one-piece rectangular tubing, brings all fins in close contact with entire surface of heating element. Both sheath and fins are of rust-resistant steel.

HEATER COIL is nickel chromium wire, insulated from the inner sheath wall with a refractory material. Terminal screws are stainless steel.

115 and 230 VOLTS

15 Stick Lengths: from 500w. 10½" overall with 7" finned length: to 3250w. 41½" overall, with 39" finned length.

Can be used where sheath temperature will not exceed 750° F. . .

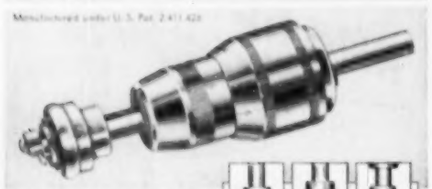
VULCAN ELECTRIC COMPANY
DANVERS 8, MASS.
Experienced Specialists in Electric Heat

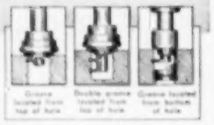
Maker of Vulcan Electric Soldering Tools, Electric Solder Pots, Electric Branding Irons and Electric Heating Units.

BREVITY—identify by IEN - 3063 if you write the maker

Waldes Truarc Internal Grooving Tool
for precision cutting of internal grooves
in bores and housings
FAST! ECONOMICAL! NEEDS NO SKILLED LABOR!

Manufactured under U. S. Pat. 2,411,424





Internal, groove-cutting becomes the simplest of operations with Waldes Truarc Internal Grooving Tool. Easy to adjust—easy to operate . . . readily adaptable to individual requirements.

Designed for use in any hand drill or automatic drill press and screw machine . . . assures a concentric recess without injury to metal. Operates by fingertip pressure—especially suitable for unskilled operators.

The Waldes Truarc Grooving Tool when used in an electric or pneumatic hand drill, can be taken to the job eliminating disassembly and excessive handling . . . resulting in all-around savings in time and costs!

Write now for descriptive brochure giving mechanical details, cutting sizes . . . extra features

WALDES TRUARC GROOVING TOOL
WALDES KOHINOOR, INC.
47-16 Austel Pl., Long Island City 1, N.Y.

NEW LITERATURE—Concluded

THERMOSTATS . . "Thermoswitch" temperature control units; sectional views with operating principles, selection data, modifications, application suggestions and examples. Catalog 600, 52 pages. Fenwal Inc., 216-20 Pleasant St., Ashland, Mass. **IEN-0346**

TOOLS . . Spark resisting units made of bronze, beryllium copper, Monel metal; size tables on chisels, screwdrivers, pliers, hammers, scoops, socket and other wrenches. Bulletin ST-5, 4 pages. Ampco Metal Inc., 1743-47 S. 38th St., Milwaukee 46, Wis. **IEN-0347**

TRUCKS . . Single-stroke hand lift truck, 2,500 and 4,000 lb. capacity in two models; illustrated design features, dimension table, modifications available, uses. Bulletin 5110, 8 pages. Barrett-Cravens Co., 4609 S. Western Blvd., Chicago 9, Ill. **IEN-0348**

TRUCKS . . Two-wheel handtrucks, dollies, wagon trucks, jack and skid units, box and shelf units, also wheels, casters; picture summary, dimensions, ratings. Junior Catalog 52-G, 12 pages. Nutting Truck & Caster, 2010 W. Division, Faribault, Minn. **IEN-0349**

TUBES . . Welded steel tube, 3/16 to ⅝ in. od.; size and pressure rating table, properties, recommended bending radii, application suggestions, fabricated parts. "Fusionweld Tubing," 12 pages. Avon Tube Div., 152 McNeal Ave., Rochester, Mich. **IEN-0350**

TUBES . . Flexible metal tubes and hose, expansion joints, bellows and assemblies; picture review of products, plants with a note on change from Chicago Metal Hose Corp. "Half a Century . . .", 12 pages. Flexonics Corp., 1316 S. 3rd St., Maywood, Ill. **IEN-0351**

VALVES . . Automatic drain valve for compressed air lines and tanks; operating-cycle diagrams, sizes, application suggestions, also automatic sump drain. Bulletin 511, 12 pages. Wilkerson Valve Inc., 1745 South Broadway, Denver 10, Colo. **IEN-0352**

VENTILATING . . Flexible fabric duct with spring helix support; description on models available, illustrated description on production facilities. "Product and Facilities Report, 40 pages. Flexible Tubing Corp., 254-58 Main St., Guilford, Conn. **IEN-0353**

VIBRATING . . Pneumatic unit in which steel ball is driven by compressed air around a circular track; cut-away view, description, operating characteristics, sizes, uses. Bulletin, "Vibrolator," 8 pages. Martin Eng. Co., 704 Rosien St., Kewanee 2, Ill. **IEN-0354**

VIBRATING . . Electric bin and hopper vibrators, vibratory feeders, parts feeders, paper joggers, portable electric tools, concrete vibrators; illustrated review. Condensed Catalog 519, 52 pages. Syntron Co., 410 Lexington Ave., Homer City, Pa. **IEN-0355**

WEIGHING . . Automatic machines to weigh flour and feed; illustrated condensed summaries on receiving and transfer, bulk, bagging, packaging types. Bulletin 0151, 4 pages. Richardson Scale Co., 666-700 Van Houten Ave., Clifton, N. J. **IEN-0356**

WEIGHING . . Scales in bench, floor, portable, hopper and other types; data on mechanism, specifications on the models, also counting, printing, batching units, specials, accessories. Catalog B, 128 pages. Toledo Scale Co., 152 Telegraph Rd., Toledo 12, Ohio **IEN-0357**

WOOD WORKING . . Jointer machine with 60-in. table and 6-in. cut width, direct or V-belt drive; general construction, specifications. Bulletin J-5, 4 pages. Heston & Anderson Div., St. Paul Foundry & Mfg. Co., 610 Kirkwood Ave., Fairfield, Iowa **IEN-0358**

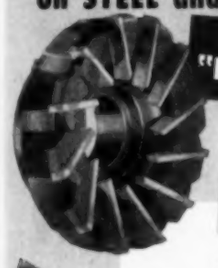
WOOD WORKING . . "Multiplex" radial-arm sawing machine; miter-angle diagrams, specifications on models to 10 hp., tools, attachments, typical illustrated setups. Catalog AD-657, 12 pages. Delta Power Tool Div., 614 E. Vienna, Milwaukee 1, Wis. **IEN-0359**

X-RAY . . Supplies and accessories for industrial X-ray equipment; data on films, developing chemicals and tanks, film dryers and illuminators, storage. Bulletin TE 3190A, 48 pages. General Electric X-Ray, 4855-57 Electric Ave., Milwaukee 14, Wis. **IEN-0360**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 3064 if you write the maker

Faster, HEAVY DUTY Milling on STEEL and CAST IRON



SOLID BLADE "KF" KENNAMILL
THE CUTTER WITH AN ASSEMBLY THAT CAN'T "FREEZE!"

Solid advanceable Kennametal blades are securely supported, can be precision set.

One-piece wedge and screw is tightened with Allenut—no threads in cutter body.

The "KF" Face Kennamill features long-lasting, solid Kennametal blades securely locked into position by easily-accessible stud-type, heat-treated alloy steel wedges that can be pulled up without movement of blades, and released without prying. Freeze-proof—no threads in body! Blades and wedges are interchangeable—fit any slot in this precision-built cutter.

Suitable for faster, lower cost production milling on steel, and heavy duty milling on cast iron. For complete particulars, write for Catalog 51—Supplement 2.

KENNAMETAL Inc.
Latrobe, Pa.
MANUFACTURERS OF SUPERIOR CEMENTED CARBIDES AND CUTTING TOOLS THAT INCREASE PRODUCTIVITY

BREVITY—identify by IEN - 3065 if you write the maker

BIG HELP

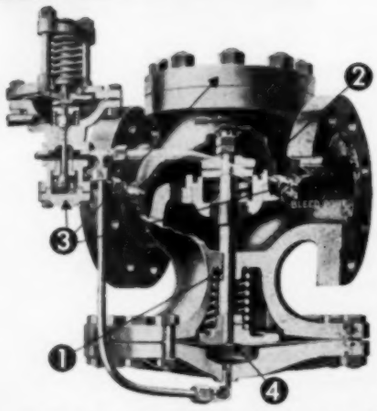
. . . in improving the efficiency of machine tools, presses and other equipment that can't be replaced.

GEROTOR
HYDRAULIC PUMPS
GEROTOR MAY CORP., BALTO. 3, MD.

BREVITY—identify by IEN - 3066 if you write the maker

Here's Why SPENCE REGULATORS

CUT COSTS . . .
REDUCE MAINTENANCE



Thousands of installations throughout the country have proved that Spence Pilot-Operated Regulators provide *dependable, trouble-free* pressure and temperature control year-in, year-out. Here are a few of the many Spence features that save you money . . . help keep *maintenance at a minimum.*

1. PACKLESS CONSTRUCTION of all Spence main valves and most pilots *eliminates the need for closely fitted parts* that may stick or bind due to uneven expansion or foreign matter.

2. DURABLE SECO METAL SEATS AND DISCS resist wiredrawing. More than 20 years of experience with SECO Metal *has failed to produce one case where it has been cut by steam.*

3. EASY TO CLEAN WITHOUT DISMANTLING — The seat and disc of the main valve and pilot can be cleaned and any working part removed *without taking the main valve out of the line.*

4. LONG-LIFE METAL DIAPHRAGMS, under usual conditions, never require replacement. The durable spring in the Spence Regulator operates at low unit stress . . . *out of the path of the steam* or other fluid flowing through the valve.

FREE BULLETIN NO. 4000 gives complete data . . . contains full color, fully illustrated description of the operating cycle of a Spence Regulator.

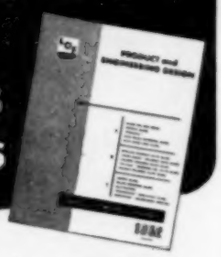
Spence

SE-104

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

▼ BREVITY—Identify by IEN - 3068 if you write the maker ▼

"HOW TO" for Designers and P.A.'s

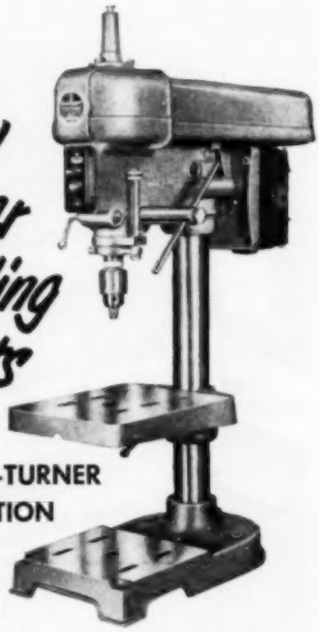


How you might replace hard-to-get metals with glass—miracle material of a thousand uses. Glass that can be electrically conductive—heat resistant—heat insulating—flat or curved—stronger than some metals. Take a new look at what L·O·F Glass can do for your product—

Write for bulletin SPD-52

LIBBEY-OWENS-FORD GLASS COMPANY
9232 NICHOLAS BLDG.
TOLEDO 3, OHIO

▼ BREVITY—Identify by IEN - 3069 if you write the maker ▼



Now lower drilling costs

NEW WALKER-TURNER PRODUCTION DRILL PRESSES

Designed for fast, accurate drilling. Wide range of speeds. Drill heads readily adaptable to hundreds of diversified uses. 72 different models. If you want to increase production quickly, and reduce your drilling costs, talk to your Walker-Turner Distributor about the new line of 15" Production Drill Presses today.

GENERAL SPECIFICATIONS

SPINDLE TRAVEL: 4½" or 6".
FOUR SPEEDS: 600, 1250, 2440 and 5000 R.P.M. using a 1740 R.P.M. motor.
CAPACITY: 4½" travel. Bench Models—12" chuck to table, 17½" chuck to base. Floor Models—39½" chuck to table, 46" chuck to base. All models 7½" center of chuck to column. Drills to center of 15" circle.
CHUCK: 26A Jacobs key type capacity 0 to ½" on production models.
TABLE: 10" x 12¼" machined working area.
BASE: 10" x 9" machined working area on Bench Models. 11" x 9" machined working area on Floor Models.
SPINDLE: Six spline full floating type, ⅝" diameter male #33 Jacobs taper for No. 6A Jacobs Chuck, or #1 Morse taper socket (optional).
PULLEY: Straddle mounted on two ball bearings for extra rigidity. New upper mounting permits quick belt changing.
COLUMN: Ground seamless steel tubing, 2½" in diameter.

SOLD ONLY THROUGH AUTHORIZED DISTRIBUTORS

WALKER-TURNER
• DIVISION •
KEARNEY AND TRECKER CORPORATION
PLAINFIELD, N. J.

DRILL PRESSES • RADIAL DRILLS • TILTING ARBOR SAWS • BELT and DISC SURFACERS • METAL-CUTTING BAND SAWS • SPINDLE SHAPERS • JOINTERS

▼ BREVITY—Identify by IEN - 3071 if you write the maker ▼

VENTILATING . . Power exhauster discharges bad air, fumes through roof

Source: BURT MFG. CO.
927 S. High St., Dept. IE, Akron 11, Ohio

Bulletin SPV-18

Motor driven axial-flow fan, mounted in the throat of this new ventilator, draws air upward through the open base and delivers it out of the top of the circular housing. A pair of dampers above the fan open and close as it is started and stopped. The free opening action permits unrestricted air delivery.

Seven sizes employ motors ranging from 1/3 to 5 hp. for capacity rating from 5,000 to 75,550 cfm. Overall diameter is 37½ to 83 inches. Overall height including the base is 41½ to 75½ inches. Standard construction is galvanized steel. Other metals can be specified.

▼ BREVITY—Identify by IEN - 3072 if you write the maker ▼

LIGHTING . . Fluorescent fixture flexibly mounted on supporting base

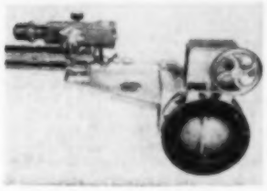
Source: LARRIMORE SALES CO.
P. O. Box 1234-A, St. Louis 1, Mo.

Two-point support is provided by the mounting bracket for the reflector and lamp assembly in this new Model-215 lighting fixture. The reflector takes two 15-watt fluorescent tubes. The assembly includes standard fluorescent starter with complete wiring and an extension cord and plug to apply in a 110-volt ac. outlet. List price is $18.

▼ BREVITY—Identify by IEN - 3073 if you write the maker ▼

VALVES . . Rubber lined butterfly with air operation and remote control

Source: W. S. ROCKWELL CO.
202 Eliot St., Fairfield, Conn.



Valve metals as specified

Sizes range from 4 to 36 in. in a new line of rubber-lined butterfly valves. The unit shown in the illustration is a 10-in. size with an air cylinder and remote manual control and also with a clutch and handwheel control at the valve housing. This particular unit is designed for operation at tight shut-off on 90-lb. differential pressure across the valve. The rubber liner is replaceable.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 3074 if you write the maker ▼

"NO MORE LAMP PROBLEMS, thanks to the LUSTRA MAN,"

[says Potts-Farrington Company, Philadelphia]

"SIX MONTHS after installation, four or five fluorescent tubes used to burn out every day. The problem was really serious. Then your Lustra Man installed Lustra Fluorescents and not one has failed in over two years."

Your local Lustra Man can bring you new convenience, lowest overall lamp costs and greater efficiency through better lighting . . . with Lustra's complete quality line of Double Duty Lamps and Fluorescent Tubes. Write us and he'll arrange an appointment—Lustra Corporation, Dept. P-3, 36 Washington St., Brooklyn 1, New York.

Lustra
AMERICA'S DATED LAMPS

DOUBLE DUTY REFLECTOR LAMPS, INCANDESCENT LAMPS, FLUORESCENT TUBES, SPOTLITES AND FLOODLITES, RUGGED DUTY LAMPS, FLUORESCENT FIXTURES AND STARTERS

▼ BREVITY—Identify by IEN - 3075 if you write the maker ▼

NOW! . . . Safe Footing for Ladder Operations

M·S·A Ladder-Leveler

- Adjusts for varied levels
- Hydraulically adjusts to uneven ground
- Digs-in on ice, gravel, asphalt
- Fits standard ladders

Regardless of surface conditions, contours, or difference of level, this automatic leveling device keeps your ladder firm and steady in any position. Simply erect ladder, flip valve lever . . . the device adjusts itself by hydraulic action . . . release the valve, and start climbing. Essential safety equipment for those who climb to their jobs. Bulletin No. CE-53.

MSA SAFETY EQUIPMENT HEADQUARTERS

MINE SAFETY APPLIANCES CO.
Braddock, Thomas and Meade Sts.
Pittsburgh 8, Pa.
At Your Service:
66 Branch Offices in the United States

▼ BREVITY—Identify by IEN - 3076 if you write the maker ▼

SO SIMPLE . . .

KESTER FLUX-CORE SOLDER

So Simple . . . to end your soldering troubles with Kester's flux control (different core sizes) plus the wide selection of Flux-Core Solders in many wire sizes ranging from .009" to ¼-inch.

Kester also provides Field Engineering Service.

Free Technical Manual. Send for your copy of "SOLDER and Soldering Technique" today.

KESTER SOLDER COMPANY
4211 Wrightwood Ave., Chicago 39
Newark 5, New Jersey • Brantford, Canada

KESTER SOLDER

▼ BREVITY—Identify by IEN - 3077 if you write the maker ▼

FOR FINEST FINISH LUFKIN CHOOSES HYPREZ

Precision Micrometers made by The Lufkin Rule Co., Saginaw, Mich.

Spindle faces shown before and after Hyprez finishing.

HYPREZ DIAMOND COMPOUNDS

Save Man Hours—Improve Quality

Type "OS", for manual or production lapping, is self-lubricating, absorbs more abraded material—has long-lasting cutting action.

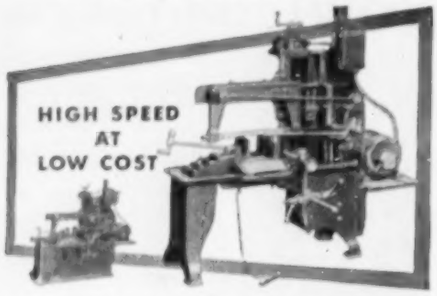
Like Type "W", it is compounded with precision-graded diamond particles—uniformly distributed, permanently suspended.

All Hyprez Diamond Compounds are available in 18 and 5 gram color-identified cartridges for use with the Hyprez Applicator Gun. Also in jars or foil tubes.

SEE EXHIBIT 525 ASTE EXPOSITION
or for complete information, write Dept. E-352

HYPREZ DIVISION
ENGIS EQUIPMENT CO.
431 S. DEARBORN ST. CHICAGO 5, ILL.

BREVITY—Identify by IEN - 3078 If you write the maker



For tool room, stockroom, or maintenance shop, this 6" x 6" capacity hack saw is ideal when you want speed, accuracy, and economical operation at lowest possible investment.

Embodies similar design principles and features of MARVEL heavier duty production saws. Its shaper-link action that provides quick return stroke, and its heavy pressure screw feed are two exclusive MARVEL features that provide FASTER cutting than can be obtained with any other metal saw in its price class.

Single speed, 2-speed, and 4-speed models are available, to suit all types of applications where materials of different hardness and alloy characteristics are to be cut. Cabinet base or open-leg base are optional.

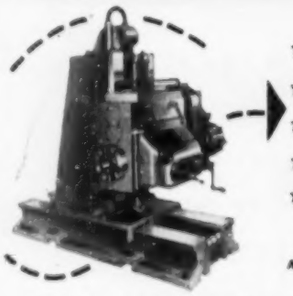
Metal Cutting MARVEL SAWS
Better Machines—Better Blades

ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U.S.A.

BREVITY—Identify by IEN - 3079 If you write the maker

FORNEY

BORING and FACING MACHINE



★ Boring
★ Facing
★ Milling
★ Tapping
★ Drilling

WRITE FOR NEW BULLETIN

Designed to eliminate conventional overhang for necessary bar travel providing greater resistance to bending stresses when boring—greater rigidity when milling—increased capacity when facing. Numerous applications can be made in boring, facing, drilling, tapping and milling. Duplicator attachments available. Standard model weighs 10,000 pounds.

FORNEY'S INCORPORATED
Manufacturers of Special Machinery Since 1918
ELM ST. NEW CASTLE, PENNSYLVANIA

BREVITY—Identify by IEN - 3080 If you write the maker

the double-duty micrometer!

You're in for a real surprise the first time you use a Federal MIKEMASTER . . . either as an *indicating micrometer* or as an *indicating snap gage* for measuring duplicate parts. Here are Mikemaster's big features that make it superior to regular "mikes":

- BUILT-IN DIAL INDICATOR with clear graduations for quick size checking down to a .0001".
- CONSTANT ANVIL PRESSURE eliminates errors of "feel" . . . same high accuracy no matter who uses Mikemaster.
- RETRACTABLE LOWER ANVIL for easy (non-scratching) insertion of workpieces.

Try the Mikemaster yourself. Write for a free demonstration. FEDERAL PRODUCTS CORPORATION, 1293 Eddy Street, Providence 1, Rhode Island.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively.

BREVITY—Identify by IEN - 3081 If you write the maker

PUMP . . Fluid piston equipment for fluids difficult to handle

Source: MANTON-GAULIN MFG. CO.
63-67 Gardon St., Everett 49, Mass.

Simple and sanitary

Schematic layout shows new assembly of equipment in which fluid is pumped alternately out of one cylinder and into another through a timer-controlled 4-way solenoid valve. Hydrex is the trade name. The equipment is designed to handle slurries, viscous pastes, abrasive or corrosive fluids, suspended solids. Pumping action is positive but sufficiently gentle so delicate food products can be handled without injuring them. A suitable membrane is provided when contact between pumping medium and product must be avoided.

A motor-driven pump A, acting through a solenoid-operated 4-way valve B, draws the hydraulic pumping fluid from one cylinder C and delivers it to the second cylinder D. This draws the process fluid into C and forces it out of D. The action continues until a timer E stops and reverses the action for pumping-fluid input to cylinder D from cylinder C. Check valves F in the inlet and outlet lines complete the assembly. The equipment is supplied in specified capacities.

BREVITY—Identify by IEN - 3082 If you write the maker

CONSTRUCTION . . Pneumatic hammer mounts on tractor to drive stakes

Source: SCHRAMM INC.
800 E. Virginia Ave., West Chester, Pa.

350 stakes per day

Pneumadriver is a new assembly of pneumatic hammer, feed mechanism and tubular frame to mount on one of the company's Pneumatractors. The equipment provides 7-ft. pneumatic power feed. The hammer is fitted with a steel nose shaped to fit the stakes that are to be driven. The tractor carries the equipment from one application point to the next and also supplies the compressed air required for the driving operation.

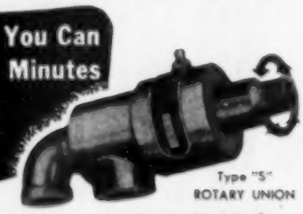
IEN - 3083

Masonry costs are kept down and building construction is expedited by a new sandwich construction of concrete with a center of Owens-Corning Fiberglas. Panels being made at present on a construction job in Ohio measure 8 by 8 to 30 feet. They are five inches in thickness. They can be employed for curtain or load-bearing walls.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3084 If you write the maker

The Joint You Can Install in Minutes . . . and Forget



Type "S" ROTARY UNION

ROTARY UNIONS
(TRADE NAME)

Standard ROTARY UNIONS are the most efficient connection to revolving shafts or drums for heating or cooling purposes . . . for applications such as Steam up to 150 P.S.I., Hot Oil to 500° F, Coolants, Air, Gases, Water, Brine, Vacuum, Alternate Mixtures, at speeds up to 1000 R.P.M. Special models for higher speeds, pressures, and Dowtherm.

Each ROTARY UNION is a self-contained unit and can be installed in a few minutes. Its novel and accurate construction takes the strain from moving and sealing parts, thus lengthening its effective life far beyond that of other joints.

"Where Good Connections Count"

Write for full information or for free consultation. Prompt deliveries from stock.

PERFECTING SERVICE CO.
332 Atando Ave. (Home Office and Factory), Charlotte, N. C.
Offices in Chicago • Cleveland • Philadelphia • Providence • Jersey City

BREVITY—Identify by IEN - 3085 If you write the maker

If you want REAL smoothness greater load capacity, greater compactness or lighter weight in your drive, we suggest you look into Cone-Drive DOUBLE-enveloping gears and reducers—the gears with MORE TEETH IN CONTACT and MORE CONTACT PER TOOTH

CONE-DRIVE GEARS
Division Michigan Tool Company
7171 E. McNichols Road • Detroit 12, Michigan
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS

Ask for Bulletin #739-50

BREVITY—Identify by IEN - 3086 If you write the maker

Wins every time

You can't deal yourself a better hand than U.S. Security. It's the completely dependable tape for electrical or general-purpose jobs. Security has no pinholes to cause leaks, will not dry out. It has high-dielectric strength, is straight-tearing, non-ravelling, will never let you down. ALWAYS SPECIFY U.S. Security.

U.S. Security Rubber Tape is unbeatable for perfect splicing when used with U.S. Security Friction Tape.

Quality products of
U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
TAPE DEPARTMENT • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

BREVITY—identify by IEN - 3088 if you write the maker

2 FAVORITES

in Leg and Foot Protection Against Heat, Sparks, Hot Metal Splashes

PROTECTIVE CLOTHING

AO 7X160 CL Legging. Protects lower leg, ankle and instep. Popular because of its unusual design and features. Spring clip on instep holds flare in position. Has three positions at top of legging and two positions at ankle for steel stay, permitting snug fit and immediate release.

AO 7X161 CL Spat. Safeguards instep and ankle. Spring clip on instep to hold flare. Three positions at top of spat and two at ankle for steel stay, assuring snug fit and immediate release.

Also available in asbestos or flame-resisting duck, under different model numbers. Your nearest AO Safety Products Representative can supply you.

American Optical
SAFETY PRODUCTS DIVISION
Southbridge, Massachusetts • Branches in Principal Cities

BREVITY—identify by IEN - 3089 if you write the maker

TRI-LOK

Each Tri-Lok step consists of a panel of Rectangular, Diagonal, or U-type Tri-Lok flooring in any desired width, length, depth, and bar spacing.

SAFE—checker plate nosing bars make each step stand out clearly. Abrasive edging also available.

CLEAN—clogless, rivetless Tri-Lok joint prevents accumulation of dirt, moisture, rust.

STRONG—added strength provided at maximum load contact by shape and rigidity of nosing bar.

Write today for bulletin PK-1903

DRAVO CORPORATION
National Distributor for the Tri-Lok Company
Dravo Building, Pittsburgh 22, Pennsylvania
Sales Representatives in Principal Cities

BREVITY—identify by IEN - 3090 if you write the maker

HOW TO MAKE 1 SINGLE CIRCUIT CHARG-O-MATIC Motor Generator Battery Charger DO THE WORK OF 2

DOUBLE THE CAPACITY of your Charg-O-Matic "KX" or "HX" single-circuit battery charger—at a fraction of the cost of an additional charger! Hertner's new Double Duty Charge Control Unit, mounted on your Charg-O-Matic, makes this easy.

You plug in two truck batteries **at once**. Each is individually charged. When the first is recharged, it is automatically disconnected and the same cycle is repeated for the second. When both are fully charged, motor generator automatically shuts down, with no further attention. Begin recharging at end of a day. By tomorrow morning you'll have two battery-powered trucks back in operation.

Specify a Double Duty unit when ordering your new "HX" or "KX" Charg-O-Matic, or mount a Double-Duty Unit on your present "HX" or "KX" Charg-O-Matic (if manufactured after Dec. 1, 1949). Either way, you'll **double the usefulness of your** battery-charging equipment.

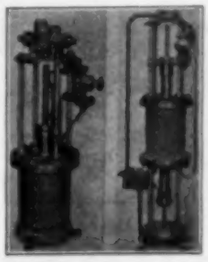
For additional information on the "HX" or "KX" Charg-O-Matic with Double Duty Unit call in your nearest electric truck representative, or write direct for bulletin No. 201R.

THE HERTNER ELECTRIC COMPANY
12690 ELMWOOD AVE. - CLEVELAND 11, OHIO
A General Precision Equipment Corporation Subsidiary
MOTORS • MOTOR-GENERATORS • GENERATOR SETS
Representatives in Principal Cities

BREVITY—identify by IEN - 3091 if you write the maker

PUMP . . Pneumatic hydraulic design builds and sustains hydraulic pressure

Source: DAVIES BROTHERS
120 Wall St., Room 2815, New York 5, N. Y.



Made in England

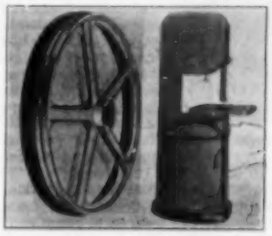
Hydraulic testing, maintenance of uniform predetermined pressure on hydraulic rams, operation of hydraulic jacks and presses are representative applications for this Airhydropump. It is new in the United States and available in two forms. One employs a pneumatic cylinder with one hydraulic piston and set of valves for alternate delivery and intake. The other employs two sets of hydraulic valves, one at each end of the double-acting pneumatic cylinder, to deliver pressure steadily.

Compressed air from a shop source connects through a control valve and pressure regulator to operate the pneumatic piston and its rod. The rod is hollow and acts as a moving hydraulic cylinder in connection with a stationary hollow piston rod carrying the hydraulic intake and output valves at its end. Operation will continue until pressure has been built to a predetermined point. Then the pump will stop and hold until leakage or further demand for the hydraulic fluid lowers the pressure. Area ratio between the pneumatic and hydraulic pistons ranges from 1 to 2⅛ to 272. Floor space measures 9 by 13 inches.

BREVITY—identify by IEN - 3092 if you write the maker

WOODWORKING . . Band saw machine, 24 in. table, 13½ in. work height

Source: YATES-AMERICAN MACHINE CO.
734 Fourth St., Beloit, Wis.



Rides on sealed bearings

New design of the company's Type-VBD Model J-120 band-saw machine employs Jiffy removable rubber tires on the two 20-in. band wheels. The tires are molded on a reinforcing steel band and are equipped with a center rib that fits into a groove machined in the wheel face. Application is by press fit. Removal follows cutting the steel reinforcement.

The table can be tilted and locked at any angle between 45 deg. to the right and 12 deg. to the left. It is equipped with a slot for a gage. Clearance between the blade and the machine column is 19½ inches. The machine takes blades to 1 in. in width. One ⅜-in. 25-gage blade is supplied.

Drive is by a 1-hp. motor with permanently lubricated bearings for a blade speed of 4,580 fpm. Correct tension is maintained in the blade by spring mounting for the top wheel. Ball bearings in the machine itself are also factory lubricated and permanently sealed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—identify by IEN - 3093 if you write the maker

HINGED PLATEGRIP
BELT FASTENER No. 500

For Heavy Conveyor Belts of Changing Length

These heavy-duty belt fasteners make a strong, flexible joint in conveyor belts, belts of any width and of from ⅛" to 1½" thickness. They offer special advantages in mines, quarries or industrial setups where length or position of belt is frequently changed, because sections can be removed or added at will. Joints are opened for this purpose by simply pulling out the hinge pin.

Easily and quickly applied on the job or in the shop. Special design gives deep compression into belting and smooth, flush joint.

Write for circular.

ARMSTRONG-BRAY & CO.
3380 NORTHWEST HIGHWAY CHICAGO 30

BREVITY—identify by IEN - 3094 if you write the maker

HOW TO IMPROVE YOUR PRODUCTS AT LOW COST

PERMACLAD
STAINLESS CLAD STEEL
ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.
Over 175 Years of Iron and Steel Making Experience

Other Products: A.W. ALGRIP Abrasive Floor Plate • A.W. SUPER-DIAMOND Floor Plate • Plates • Sheets • Strip • (Alloy and Special Grades)

BREVITY—identify by IEN - 3095 if you write the maker

KOHLER ENGINES

Four-cycle
Air-cooled

Kohler Engines provide reliable power for a wide range of uses. Compact, quick-starting. Engineered and built to the high standards that have won world-wide acceptance for Kohler Electric Plants in construction and other industries. The Kohler mark has been identified with quality products for over three-quarters of a century. Write for information on sales and service franchise.

Kohler Co., Kohler, Wisconsin Established 1873

KOHLER OF KOHLER
PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PORCELAIN ENAMEL

BREVITY—identify by IEN - 3096 if you write the maker

FREE MANUAL

tells how
DY-NAMIC BALANCING CAN IMPROVE YOUR DEFENSE PRODUCTION!

This New "Bear" Manual will show you how Dy-Namic Balancing can aid your defense production program these two ways:

1 Improve finished product performance by eliminating mechanical failures and assuring greater efficiency and longer life. Gives you the quality standards to help meet many government contract specifications.

2 Keep your own equipment operating without interruption. Periodic checking and Dy-Namic Balancing of rotating parts in your machinery and production equipment will reduce bearing wear and noise and eliminate costly downtime for repairs.

Write today for your free copy. Bear Mfg. Co., Dept. 1-5, Rock Island, Ill.

24 PAGES OF VALUABLE INFORMATION LIKE THIS:

- How To Balance Parts From 4 Oz. to 8 Tons!
- What Is Dy-Namic Un-balance?
- The Difference Between Static and Dy-Namic Un-balance!
- How To Balance Rotating Parts Statically and Dy-Namically In One Operation!
- How Other Plants Are Using Dy-Namic Balancing To Save Time and Money!
- How Dy-Namic Balancing Improves Product Performance!
- How Dy-Namic Balancing Reduces Wear, Eliminates Noise And Vibration.
- Details, Specifications And Engineering Data About Complete Line of "Bear" Industrial Dy-Namic Balancing Machines.

"BEAR"
STATIC AND DY-NAMIC BALANCING MACHINES

▼ BREVITY—Identify by IEN - 3097 If you write the maker ▼

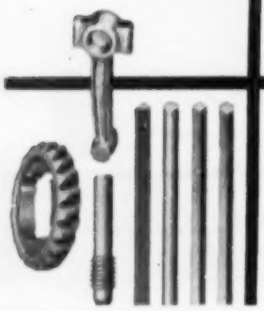
MUELLER BRASS CO.

"600" SERIES

a better bearing bronze containing no hard-to-get tin

If you use gears, connecting rods or other parts requiring bearing properties, it will pay you to investigate "600" Series, a high strength bronze that contains no tin. "600" Series bearing metals can be forged into relatively complicated shapes and the forged shape is closer to finished size than a casting, often requires less machining, and eliminates the need of a bushing. "600" Series is available in standard and special extruded shapes in 12' mill lengths. These alloys have a low coefficient of friction, a tensile strength 2½ times greater than cast phosphor bronzes and high resistance to corrosion . . . write today for further facts.

"Typical forged parts and rod shapes produced from Mueller Brass Co. "600" Series bearing bronze



MUELLER BRASS CO.

PORT HURON 27, MICHIGAN

73-8

▼ BREVITY—Identify by IEN - 3098 If you write the maker ▼

Pangborn DUST CONTROL

Turns Dust Into Profits!

A At Flury Foundry, this small and inexpensive Pangborn Dust Collector stops dust caused by blast cleaning operations . . . pays its own way in increased efficiency.

B At Dodge Cork Company, a Pangborn Dust Control System salvages $5000.00 worth of cork dust every year from some 40 sawing and polishing machines.

C At Landers, Frary & Clark, a Pangborn Dust Collector like this traps 522 cu. ft. of cast iron dust per day . . . company records prove maintenance costs are lower than ever before.

Dust is no problem for plants with Pangborn Dust Control. As these three cases (picked from hundreds in our files) show, a Pangborn Dust Control System *saves money* on maintenance when dust is a nuisance, saves money when dust has salvage value.

FIND OUT TODAY

how you can *save money* with Pangborn Dust Control. Write for your copy of Bulletin 909-A to: PANGBORN CORPORATION, 2300 Pangborn Blvd., Hagerstown, Maryland.

Look to Pangborn for the Latest Developments in Dust Control and Blast Cleaning Equipment.

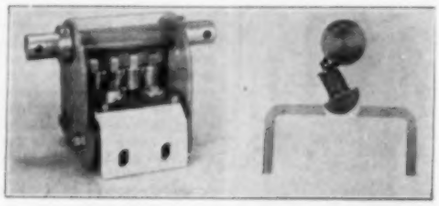
Pangborn DUST CONTROL

STOPS THE DUST HOG from stealing profits

▼ BREVITY—Identify by IEN - 3100 If you write the maker ▼

SWITCH . . Disconnect unit for high current low voltage circuits

Source: RAILWAY & INDUSTRIAL ENGINEERING CO. 152 Kerr St., Greensburg, Pa.



Illustrated details in Bulletin 1310-B

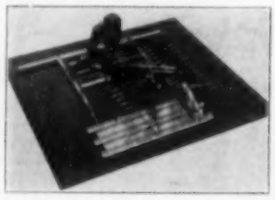
One contact unit to a maximum of 16 can be assembled together for operation by a rotating shaft in this new Type-CR switch. It rates 2,000 amp. ac., 3,000 amp. dc. for circuits to 250 volts. Silver-to-silver contacts make and break with wiping action and are self-aligning. Terminals are insulated from the base parts.

Originally developed as a short circuiting switch for electrolytic cells, the unit can be applied also on electroplating and furnace buses and other circuits involving high current and low voltage within the range of ratings.

▼ BREVITY—Identify by IEN - 3101 If you write the maker ▼

ENGRAVING . . Pantograph machine mounts on any flat work surface

Source: NEW HERMES INC. 15-17 University Place, New York 3, N. Y.



For large work areas

The chassis in the company's Model 1-S Engravograph machine, previously described IEN-6502-51, is now detachable from its Formica base so the engraving mechanism can be mounted as a unit on any large work surface. Thus previous limitation restricting the engraving space to 25 in. has been eliminated.

The copy table at the front of the chassis is made of stainless steel and measures 6 by 16 inches. Copy-holding slides are 18 in. in length and will take type to ⅝ in. in height with adjustment for any desired spacing. The largest engraved type face that the machine will produce is 1 in. in height. The smallest measures 3/64 inch. Drive is by a 1/12-hp. universal motor for operation on 110 volts. Overall ratio range in the pantograph arms is 1 to 2½ to 6.

▼ IEN - 3102 ▼

Mercury that is free from all contaminants is now being packaged by Bethlehem Apparatus in 5-lb. polyethylene "squeeze" bottles equipped with flexible dispensing tips. You can transfer the mercury from the bottle to your instruments without spilling it or exposing it at all.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 3103 If you write the maker ▼

When heavy, unwieldy weldments like these diesel crank cases can be quickly swung into any position so that every weld is made downhand—that's efficient welding.

Welders spend more time welding—do better welding at lower cost when they work with C-F Positioners because these hand and/or power operated machines reduce positioning time to a minimum. Investigate the cost saving advantages of C-F Positioners. They pay their way in any company.

Write for Bulletin WP 26—an illustrated circular detailing the Specific Advantages of C-F Positioners.

CULLEN-FRIESTEDT CO.

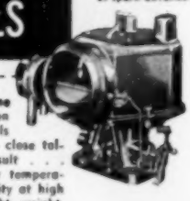
1310 S. Kilbourn Chicago 23, Ill.

▼ BREVITY—Identify by IEN - 3104 If you write the maker ▼

HOLLEY DISCOVERS HOW TO SPARK A CARBURETOR IMPROVEMENT WITH

ACE PRECISION NYLON BALLS

Holley Carburetor Co., Detroit, uses Ace Nylon Balls as check valves in carburetors to permit a higher degree of spark advance.



For the first time . . . DuPont Nylon FM # 10001 balls mass-produced to close tolerances. The result . . . toughness at low temperatures, form stability at high temperatures, light weight, chemical and abrasion resistance.

SIZES ⅛" - ¾"
TOLERANCES ± .001

Hundreds of Industrial Applications! Let our engineers advise you. *Request samples and bulletin TODAY*

ACE PLASTIC COMPANY

Precision Plastic Fabricators and Extruders

91-24 VAN WYCK BLVD. • JAMAICA 2, N. Y.

▼ BREVITY—Identify by IEN - 3105 If you write the maker ▼

FABRI-VALVE

FABRICATED ALLOY VALVES

***Save* ON ORIGINAL PRICE, INSTALLATION and SHIPPING COSTS**

FABRI-VALVES are complete weldments from rolled plate, thus eliminating any porous areas and insuring proper thickness where desired.

FABRI-VALVES weigh considerably less than a cast valve, making a large saving not only in original price but in installation costs and shipping weights.

FABRI-VALVES are a modern development built for use in conjunction with modern lightweight pipe and fittings.

Write inquiries to dealer listed below or to home office for descriptive literature.

SIZES IN STOCK 2" to 24"
SPECIAL ORDERS IN 30 DAYS

AGENTS:

SOUTHERN CORPORATION Charleston, S. C.
M. J. GIGY & ASSOCIATES San Francisco, Cal.
JOHN B. ASTELL & CO. New York, N. Y.
NORTHWEST COPPER WORKS, Inc. Portland, Ore.
THOS. W. MacKAY & SON, LTD. Vancouver, B. C.
CHANDLER BOYD CO. Pittsburgh 19, Penn.

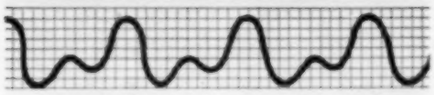
FABRI-VALVE CO. OF AMERICA

2100 N. Albina Ave., Portland 12, Oregon

▼ BREVITY—Identify by IEN - 3107 If you write the maker ▼

timing . . . .

unaffected by voltage fluctuations



AN

AGASTAT

TIME DELAY RELAY for every requirement

A'C'A 1027 NEWARK AVE., ELIZABETH 3 NEW JERSEY

A'C'A AGASTAT TIME DELAY RELAYS · A'C'A SUPSONIC REFLECTORS · A'C'A AIRPORT LIGHTING · A'C'A MARINE LIGHTING EQUIPMENT

▼ BREVITY—Identify by IEN - 3108 If you write the maker ▼

GOES A LOT FARTHER

To Improve Production, End Dust Health Hazard Reduce Rejects and Maintenance Costs

HOFFMAN HEAVY DUTY VACUUM CLEANING

Bigger Capacity—Higher Vacuum

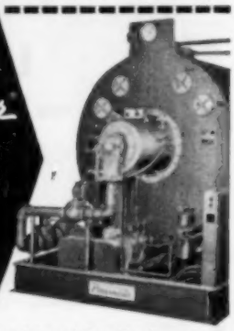
New Available in 5 Sizes of Improved Portables. Stationary Systems in a Complete Range of Sizes. Write for New Bulletins A-814 and A-816.

AIR APPLIANCE DIVISION

U.S. HOFFMAN MACHINERY CORPORATION
103 Fourth Ave., New York 3, N. Y.
Canadian Plant: Canadian Hoffman, Newmarket, Ont.

▼ BREVITY—Identify by IEN - 3109 If you write the maker ▼

ONLY THE *Powermaster* GIVES YOU ALL 3 ADVANTAGES



1. Wide range between high and low fire—you use less fuel. **2.** Freedom from carbon cuts clean-up time and expense—usually by 50%. **3.** Change from oil to gas (or gas to oil) in a few minutes.

To Cut Your Steam Costs Mail Coupon Today

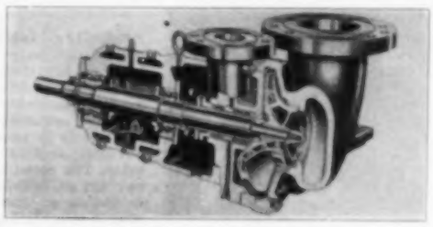
ORR & SEMBOWER, INC. • 860 Morgantown Road • Reading, Pa.
Please send my free copy of the POWERMASTER catalog.

NAME _____ TITLE _____
(Please Print)
COMPANY _____
ADDRESS _____
CITY _____ ZONE _____ STATE _____

▼ BREVITY—Identify by IEN - 3110 If you write the maker ▼

PUMP . . Single stage centrifugal to 1,000 gpm., 625 ft., 850 deg. F.

Source: PEERLESS PUMP DIVISION
West Ave. 26 & Humboldt, Los Angeles 31, Calif.



Illustrated detail in Bulletin B-1605

Mounting on the horizontal centerline, vertically-split pump housing, positive support beneath the pump housing, water-cooled stuffing box and water-jacketed bearing housing, all combine to suit this pump for handling petroleum hydrocarbons, water, chemical solutions over a wide range of temperatures and pressures. Motor drive is standard. A steam engine or turbine can be specified. The liquid end is available in cast iron, bronze, carbon steel, stainless steel or other materials for given application. Two models, both Type PR, provide end or top inlet. Both have top discharge.

The assembly employs a removable throat bushing, a by-pass lantern ring to relieve pressure back to the suction, a packing gland for protection against escape of hazardous liquids through the packing. It includes slingers at both ends of the bearing housing to prevent oil leaking out or dirt entering the housing.

The impeller is fitted with integral repelling vanes on its rear shroud to prevent accumulation of solids at the back of the pump housing and to reduce the stuffing-box pressure. The cantilever-type bearing housing and spacer-type coupling permit removal of the rotating parts without disturbing the piping or the drive. Mechanical seals of the company's own design can be supplied in place of the packing.

Eight sizes range from 1½ by 3 in. to 4 by 6 inches. Base dimensions to include the motor are 66 by 25 in. to 99 by 43 inches. Discharge-flange height, including the base height, is 26½ to 38 inches overall.

▼ BREVITY—Identify by IEN - 3111 If you write the maker ▼

PROTECTING . . Plastic goggle for workers handling acids and alkalis

Source: UNITED STATES SAFETY SERVICE CO.
1213-17 McGee St., Kansas City 6, Mo.

Elastic head band fits anyone

Light weight, softness to mold to facial contours, hood-protected screen vents characterize this new Duo-Chem vinyl plastic goggle. The frame is colored bright yellow to identify it for protection against contact with acids and alkalis. The plastic will not stain or discolor in service. The lens is replaceable, optically correct. It meets Federal specifications for impact resistance.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

▼ BREVITY—Identify by IEN - 3112 If you write the maker ▼

ERTEL STAINLESS STEEL Centrifugal & Self-Priming PUMPS

with minimum of parts . . .

Meet requirements for handling corrosive liquids in the *Drug, Chemical and Food field.*

MODEL SCP CENTRIFUGAL — MODEL ESP SELF-PRIMING

Write for fully illustrated Literature

ERTEL ENGINEERING CORPORATION

KINGSTON 4, NEW YORK
Branch Office & Showroom Located in New York City

TRADE MARK REGISTERED COMPLETE LINE OF *Liquid Handling Equipment*

ERTEL

▼ BREVITY—Identify by IEN - 3113 If you write the maker ▼

CAN YOU AFFORD NOT TO GIVE YOUR WORKERS PROPER *Seating?*

A tired worker costs MUCH more than a GOOD CHAIR

Royal's 515 STOOLS WILL HELP KEEP YOUR WORKERS AT PEAK EFFICIENCY...

Resulting in More Work Produced per Man Hour and Lower Actual Costs per Chair.

- STURDY MASONITE INSERT IMBEDDED IN SEAT PAN.
- LEG EXTENSION FOR EASY HEIGHT ADJUSTMENT.
- ADJUSTABLE BACKREST.
- OVEN BAKED GREY ENAMEL FINISH.

60 DAY FREE TRIAL — examine it... test it... use it without obligation

10 YEAR Free MAINTENANCE POLICY

ROYAL METAL MFG. CO.
175 NORTH MICHIGAN AVENUE
CHICAGO 1, ILLINOIS

▼ BREVITY—Identify by IEN - 3114 If you write the maker ▼

NOW! Pangborn Stock Units for Blast Cleaning . . . Dust Control . . . Precision Finishing

Blast Cleaning Unit is PORTABLE!

Ideal for maintenance and many other jobs, including removal of rust, dirt, scale, etc. Economically cleans large objects like tanks, bridges, structural work before painting. Six sizes, stationary or portable, from $170.00 and up.

Hydro-Finish SPEEDS POLISHING!

Removes scale and directional grinding lines . . . prepares surfaces for plating and holds tolerances to .0001"! Liquid blast reduces costly hand cleaning and finishing of molds, dies, tools, etc. Models from $1295.00 and up.

STOP DUST at the SOURCE!

Pangborn industrial type Unit Dust Collectors trap dust at source. Machine wear is minimized, housekeeping and maintenance costs reduced. Solves many grinding and polishing nuisances and material losses. Models from $286.00 up.

COMPACT Blast Cabinet for SMALL WORK!

Ideal for producing clean, smooth surfaces on pieces up to 60" x 36" in size. Cleans metal parts, removes rust, scale, grime, dirt, paint, etc., in a few seconds. Saves money all year 'round. Models from $315.00 and up.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control Equipment

Pangborn MAIL COUPON FOR DETAILS

Check for more information
- ☐ Blast Cleaning Cabinets
- ☐ Blast Cleaning Machines
- ☐ Unit Dust Collectors
- ☐ Hydro-Finish Cabinets

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me more information on the equipment I've checked at the left.
Name.....
Company.....
Address.....
City.....Zone.....State.....

BREVITY—Identify by IEN - 3116 if you write the maker

NEW engineering reference

MANUAL OF EXHAUST HOOD DESIGN

For increased efficiency of Dust Control Systems. This new AAF Manual is the most complete engineering reference of its kind. Twenty-four pages of factual information, tables of exhaust requirements, many photographs . . . cover applications in nearly all metal working industries. Special sections include • Polishing, Buffing, Grinding and Allied Operations • Portable and Flexible Shaft Grinding and Polishing • Cast Iron Machining • Automatic Buffing • Oil Mist Control.

Right now is a good time to send for your free copy of this Manual—Bulletin No. 270-E1.

AAF American Air Filter
COMPANY, INC.
335 Central Avenue, Louisville 8, Ky.
American Air Filter of Canada, Ltd., Montreal, P. Q.
Pacific Division Office, San Francisco, California

BREVITY—Identify by IEN - 3117 if you write the maker

Step-up output with *specialized* Wheeler Fluorescent Fixtures! Their greater lighting efficiency pays off in higher quality . . . *increased production* — on every job, in every type of plant condition.

Write Wheeler Reflector Co.,
275 Congress St., Boston 10, Mass.

Wheeler REFLECTORS
MADE BY SPECIALISTS IN EQUIPMENT SINCE 1881

BREVITY—Identify by IEN - 3118 if you write the maker

ALL INFORMATION, METHODS, AND IDEAS NEEDED TO PRODUCE BETTER TOOLS AND DIES

Practical Data on Popular Analyses of Tool Steels, their Selection, Heat Treatment, and Use

in the Revised, Enlarged SIXTEENTH PRINTING of this

TOOL and DIE STEEL HANDBOOK

By Palmer and Luerssen

Here's the BOOK OF ANSWERS for every man responsible for tools and dies. Shows you how to increase your company's production from present equipment—how to reduce toolmaking trial and error, conserve tool steel, avoid die troubles, simplify heat treatment. Gives complete working information on everything from selection of the right steel to heat treating methods and equipment, hardness and toughness testing, latest data on high speed and hot work steels. 564 pages, 355 charts, photos, diagrams give you facts on how design affects heat treatment, hardenability tests, time required to heat different tools to required hardening and drawing temperatures, furnace atmospheres, quenching, tempering, trouble-shooting.

INCLUDING 60-PAGE ALPHABETICAL SELECTOR, BOUND RIGHT IN THE BOOK, SHOWING WHICH STEEL TO USE FOR ALMOST EVERY TOOL AND DIE. Use this book to train new men and upgrade skilled men.

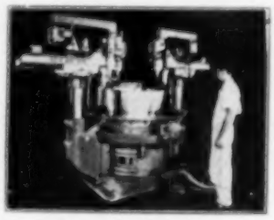
OVER 100,000 COPIES IN USE! CLIP AND MAIL NOW

THE CARPENTER STEEL CO. • READING, PA. • DEPT. BX-2
Please send me, postpaid, your revised "Tool Steel Simplified". I enclose $2.00 ($2.50 outside U.S.A.) in full payment of the book.
NAME _____ TITLE _____
FIRM NAME _____
MAILING ADDRESS _____
CITY _____ STATE _____
(Please print)

BREVITY—Identify by IEN - 3119 if you write the maker

DRILLING . . Special machine for circular work, ½ in. in steel

Source: NEW BRITAIN MACHINE CO.
138-42 Chestnut, New Britain, Conn.



Also taps, countersinks

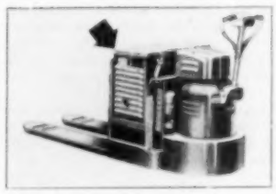
Indexing table mounts work centrally in this new Circular Pattern drilling machine. Motor-driven head assemblies, one to four in number, mount around the table. The spindles can adjust radially to operate on diameters to 48 inches. The table can be set for 4 to 100 index movements in a complete cycle. Spacing can be regular or at irregular intervals. Work capacity is to 61 in. in diameter.

The operator indexes the work to successive positions and alternately punches a "feed" button to start the spindle movement. Each spindle feeds down, cuts through, retracts and stops. Typical applications are in drilling the flanges in shrouds, vane-support rings, exhaust cones of jet engines.

BREVITY—Identify by IEN - 3120 if you write the maker

TRUCK . . Power lift pallet unit employs engine driven power generator

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio



Engine drives generator

The company announces availability of its Model-W pallet truck, previously described IEN-2168-49, with the new Ready-Power engine-driven power unit. This unit includes in one removable assembly a gasoline engine, an electric generator with the required controls to supply electric current to the truck's standard electric motor. Assembly is inside a rectangular housing that includes a fuel tank and starting battery as well as the required accessories. Capacity is sufficient to handle a 4,000-lb. load in continuous duty.

The truck travels at 2.2 mph. with a capacity load. Lift height is through 4 inches. Standard fork lengths are 36 to 72 in. with overall width at 27 inches. Operating control centers at the handle, beside which the operator walks or stands.

IEN-3121

Sand blending in the foundry is the latest operation to be benefited by application of those little Baldwin strain-gage load cells that are going into so many places these days. The cells mount in support for the skip bucket used to handle the sand from a muller. They assure receipt of just the correct amount of sand. They need no oiling. They do not stop for lunch. They never make a mistake.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3122 if you write the maker

Just Off The Press—

Most complete book of its kind ever published . . . 80 pages of valuable information about Selenium Rectifiers . . . 48 pages of Radio and Television circuit diagrams . . . 20 pages on Power Rectifiers . . . 3 pages on High Voltage Rectifiers . . . a 7 page cross index replacement guide. Send 50¢ for your copy or see your distributor.

Sarkes Tarzian, Inc., RECTIFIER DIVISION
Dept. B-1, 415 N. College Ave.
Bloomington, Ind.

BREVITY—Identify by IEN - 3123 if you write the maker

Rough on Floors? you can't faze TUFF-TEX!

Tuff-Tex* will take all that the traffic will bear from scuffing feet . . . shunting trucks . . . vibrating machines. And it's *greaseproof!*

Installed quickly, economically. Simple to maintain. Dirt and grime won't penetrate through the surface.

Get in touch with your Tile-Tex* Contractor. Or, for new Tuff-Tex folder, write:

THE TILE-TEX DIVISION, *The Flintkote Company, 1234 McKinley Street, Chicago Heights, Illinois.*

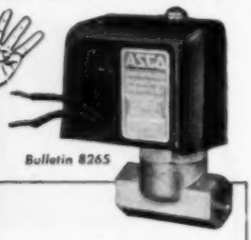
The Flintkote Company of Canada, Ltd., 30th Street, Long Branch, Toronto, Canada.

* Registered Trademark, The Flintkote Company

TUFF-TEX ... *Greaseproof Industrial Tile*

BREVITY—Identify by IEN - 3124 if you write the maker

3 Sturdy SMALL Shut-off Valves for EXTRA HEAVY Duty



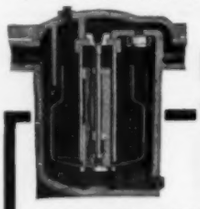
Bulletin 8265

Bulletin 8265 . .	for air, water, light oil, refrigerants and other liquids and gases up to 250 psi; for steam up to 175 psi; Factory Mutual and Underwriters' approved; ⅛" pipe size; ½" to ¼" port size.
Bulletin 8268 . .	Similar but designed to handle a greater variety of materials up to 475 psi; heavy fuel oil up to 200 psi; ⅜" and ½" pipe size; ¼" to ⅜" port size.
Bulletin 8271. . .	for steam and other non-corrosive liquids and gases at high temperatures (212° F. to 450° F.); ⅜" and ½" pipe size; 3/16" to ⅜" port size.

These ASCO Valves are packless, thus eliminating stuffing box maintenance. Modified types of this series include valves that "open" rather than close on de-energizing . . . adjustable main flow and by-pass flow valves . . . and explosion-proof valves. All are described in detail in our catalog section 6-V. Write for your copy.

Automatic Switch Co.
383 Lakeside Avenue Orange, New Jersey
When in need of Automatic Transfer Switches, Remote Control Switches, Contactors, Relays, and Specialized Electromagnetic Controls, come to us. V-90-4

BREVITY—Identify by IEN - 3125 if you write the maker



ILLINOIS STEAM TRAP

Simple—has only two moving parts

Valve Stem Travels Independent of Bucket—no other trap has this feature.

Instantaneous Valve Action—either wide open or tight shut—will not dribble on partial closing of valve under slow condensation rates.

Wire Drawing Impossible—valve has snap action.

Simple—moving parts are valve and bucket.

Cannot Air Bind—vents air continuously without loss of steam.

Cannot Blow Steam—always water sealed.

Surface Discharge—flushes out all grease and sludge.

Valve Seat—of special alloy, fully guaranteed.

Inspection Easy—without disturbing piping.

Works Equally Well on All Fluids—compressed air lines, air separators, air aftercoolers.

Write for Bulletin 35

Consult us on your requirements

ILLINOIS ENGINEERING COMPANY
INCORPORATED 1900
RACINE AVENUE AT 21ST STREET • CHICAGO 8

BREVITY—Identify by IEN - 3126 If you write the maker

ALL PEERLESS MOTORS ARE "Peerless Registered"

MORE than 90% of all Peerless Motors are custom manufactured to meet the specific operating requirements of the equipment with which they are to be used. So we "Peerless Register" every motor before shipment. The words "Peerless Registered" are a trademark, recorded in the U.S. Patent office. Only Peerless Motors can bear this phrase, and only Peerless Motors offer you this protection. This registration record is assurance to both you and your customer that the Peerless Motor has been properly designed for your equipment so as to give best possible performance and long, satisfactory service. And the registration record makes possible the quick identification of any Peerless Motor—anywhere.

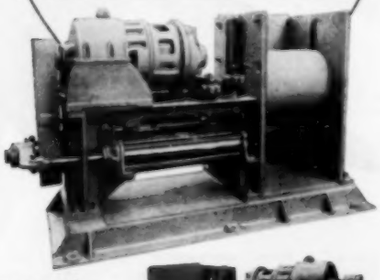
THE PEERLESS ELECTRIC CO., WARREN, OHIO
Manufacturers of Quality Motors Since 1893
Single Phase • Polyphase • Direct Current • ¼ to 15 H.P.

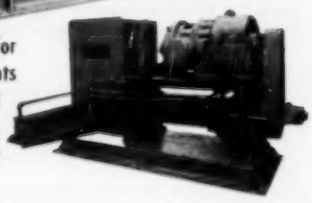
Peerless-Electric MOTORS-FANS-BLOWERS

BREVITY—Identify by IEN - 3127 If you write the maker

Salvage
ALUMINUM · STEEL
BRASS · COPPER
LEAD or WIRE
Faster, More Economically

The New McLanahan SCRAP BUNDLER





Designed for use in plants of small or large capacity

If your metal scrap or wire is of a stringy nature, you need the new McLanahan scrap bundler for use with your slitting equipment. This new machine, the result of constant research and product development, quickly and economically bundles metal scrap into cylinders approximately 16" to 18" in diameter. Easy to handle, ship, store or remelt . . .

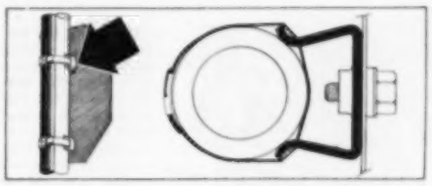
Write Today for Descriptive Bulletin

McLANAHAN and STONE Corp.
Hollidaysburg, Pa. SINCE 1835

BREVITY—Identify by IEN - 3129 If you write the maker

FASTENING . . Sign bracket for steel poles to 2 in. diameter

Source: A. J. GERRARD & CO.
1948-52 N. Hawthorne Ave., Melrose Park, Ill.



No drilling is required

Formed steel bracket bolts to the rear of a sign, carries a steel strap and sealing fitting for application by the company's Steelbinder tool in this new fastening. The bracket is galvanized. Removal is by severing the strap.

BREVITY—Identify by IEN - 3130 If you write the maker

TESTING . . Sweep generators for laboratory and production uses

Source: RADIO CORP. OF AMERICA
1941 Front & Cooper Sts., Camden 2, N. J.

To anticipate UHF-TV needs

The company announces development of two new electronic instruments for test application in laboratory and production lines or ultra-high-frequency electronic equipment. Model WR-40A sweep-marker generator is a new test unit combining a sweep-frequency oscillator, a marker oscillator, and a crystal calibrator. It is designed particularly for laboratory use in connection with engineering design and development work on tuners, converters, television receivers, antennae, lines. It measures 22½ by about 15 by 21¾ inches.

Type WR-41A sweep generator employs the same generator mechanism as that in the sweep-marker design. It does not include the laboratory-type calibrator or the marker circuit. It is intended primarily for production testing of converters, television receivers. It measures 13 by 9 by 12 inches.

BREVITY—Identify by IEN - 3131 If you write the maker

DUST COLLECTING . . Blower, filter and centrifugal separator, 3,630 cfm.

Source: AGET-DETROIT CO.
401 Main St., Ann Arbor, Mich.

Six disc grinders, or four wood jointers, planers, abrasive belts, or six 20-in. grinding wheels can be served by this new Model 3050 Dustkop. Static suction is 6 in. in its 8-in. inlet. Drive for the blower is by a 5-hp. motor. Floor space is 29 by 50 inches. Height is 132 inches. Operation is on 220/440-volt 3-phase 60-cycle ac. power supply.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

BREVITY—Identify by IEN - 3132 If you write the maker

See the new Heavy Duty No. 500 Speed Way ½" Speed Drill

- All Ball Bearing.
- Wide-face Helical Gears—precision hobbed from nickel alloy steel
- Integrally Die Cast Aluminum Body and Frame—all structural and supporting members die-cast-in.
- More Powerful Heavy Duty Motor 5½ Amp. input and ⅓ H.P. output
- No. 34B Jacobs Geared Chuck and finest Electrical Equipment.
- Compact, Powerful, Light—weighs only 10 lbs.

WRITE FOR CATALOG
SPEEDWAY MFG. CO.
1885 So. 52nd Avenue, Cicero 50, Illinois

BREVITY—Identify by IEN - 3133 If you write the maker

Users Tell Our Story Best!
163 ORDERS FROM 3 CUSTOMERS ALONE...TOTALED 1,421,402 LBS.

SPEED PATCH
WORLD'S FINEST, FASTEST, FLOOR FIXER!

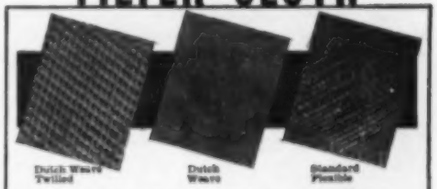
TAKES ONLY **ONE MINUTE** PER SQUARE FOOT!

Think of it . . . just 3 customers purchased almost 1½ million lbs. of Speed Patch. And more orders are coming from them regularly. They have ordered loads of other Rock-Tred products as well. Must be good. Let their experience be your guide. Find out how Speed Patch can make your floors pay off in cash. Write today!

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7450-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 6

BREVITY—Identify by IEN - 3134 If you write the maker

FILTER CLOTH



Dutch Weave Twilled — Dutch Weave — Standard Plain

There's a Roebling Metallic Filter Cloth for your exact requirements

NO MATTER WHAT your filtering problems, you'll get maximum efficiency and top service economy with the *right* Roebling Metallic Filter Cloth. Roebling makes Filter Cloth from an exceptionally wide range of metals and alloys...in every practical weave and mesh. Those pictured above have the strength required for higher pressures or vacuum. They're smooth-woven and easy to clean; readily adaptable for nearly any type of filter.

Send for full information about Roebling Metallic Filter Cloth. And let us discuss you particular problems and furnish samples.

WOVEN WIRE FABRICS DIVISION
John A. Roebling's Sons Company, Roebling, New Jersey

ROEBLING

BREVITY—Identify by IEN - 3135 If you write the maker

Pheoll CAP SCREWS Meet All Requirements For Simple Hand and High Cycle Wrenching

Whether you use hand or power wrenches, uniform quality of Pheoll cap screws assures faster tightening, better thread contact and improved holding, either in tapped holes or with nuts.

Pheoll Hexagon Head Cap Screws are available from stock in bright finish or high-carbon steel, heat-treated. Flat head and fillister head cap screws are carried in stock. Brass Cap Screws in hexagon, flat and round head are also stock items. All cap screws supplied with coarse or fine thread.

Let our field engineers help solve your industrial fastener problems.

OTHER PHEOLL PRODUCTS INCLUDE . . .
Machine Screws • Wood Screws
Machine Nuts • Stove Bolts
Tapping Screws • Machine Bolts
Sems • Special Screws

Pheoll MANUFACTURING COMPANY • 5700 Roosevelt Road Chicago 50, Illinois
SCREWS • BOLTS • NUTS — *Industrial Fasteners and Holding Devices*

▼ BREVITY—Identify by IEN - 3136 If you write the maker ▲▼

▼ BREVITY—Identify by IEN - 3137 If you write the maker ▲▼

The moral to our story?

Make the job easier for your maintenance personnel . . . and you *automatically* lower your maintenance costs. Let 'em wax as they clean — with a specially formulated material that performs 3 operations in one!

Lustreclean (pine-scented or plain) cleans . . . deodorizes . . . and deposits a light film of wax. Effective on any type of surface! No heavy scrubbing. No rinsing. Mop dry . . . buff the film lightly if a soft satiny finish is desired! Save time and labor cleaning floors, walls, woodwork — wherever excessive wear and heavy traffic has made daily maintenance a back-breaking job.

Lustreclean really cleans! Its emulsifying action loosens the most persistent dirt, grime . . . hard-to-remove rubber burns. No need to use harsh soaps or injurious chemicals. Proof? Ask for a sample and test it on the spots and blemishes your present cleaner won't remove!

Pine Lustreclean *is only one of many WEST products formulated for the promotion of sanitation. Others include floor sealers and waxes . . . washroom service . . . disinfectants . . . deodorants . . . insecticides . . . cleaners . . . soaps . . . protective creams. West is the exclusive distributor of Kotex Sanitary Napkins sold through vending machines.*

WEST DISINFECTING Company

42-16 WEST STREET, LONG ISLAND CITY 1, N. Y.
(64 BRANCHES IN U.S. AND CANADA)

SAVE $ $ $ WAX as you WASH

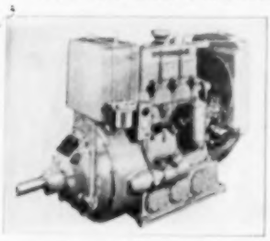
I'd like to try a sample of Lustreclean
Pine-Scented ☐ Plain ☐

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____ Dept 13

▼ BREVITY—Identify by IEN - 3139 If you write the maker ▲▼

ENGINE . . Three cylinder diesel, 30 to 45 hp. at 1,200 to 1,800 rpm.

Source: NORDBERG MFG. CO.
3071-75 S. Chase Ave., Milwaukee 7, Wis.



Ready for load connection

Type 4FS3 is a new four-cycle vertical mechanical-injection diesel engine with 4½-in. bore and 5¼-in. stroke. It is supplied as a self-contained unit with clutch or stub-shaft power take-off for equipment drive. It is available also in direct assembly with an electric generator to produce 20 to 30 kw. in standard voltages, either 50 or 60-cycle, or with a centrifugal pump rating 500 to 3,000 gpm. for operation on a 20 to 220-ft. head.

Equipment includes electric starting motor and battery-charging generator, radiator cooling for stationary application and water-jacket heat exchanger for marine use, diaphragm-type fuel-oil transfer pump with a hand priming lever actuated by the cam shaft, fuel strainer and filter, mechanical flyball governor gear connected to the cam shaft, and high-pressure fuel-injection nozzles.

▼ BREVITY—Identify by IEN - 3140 If you write the maker ▲▼

ELECTRIC DUCT . . Portable unit for power, light and heat connections

Source: NATIONAL ELECTRIC PRODUCTS CORP.
1301 Chamber of Commerce Bldg., Pittsburgh 19, Pa.

Just plug it in

Rolla-Duct trade names a new assembly of wheel-mounted Surface-duct that can be rolled to a job to supply required electric connections. A strip of the duct measuring 46 in. in length is swivel mounted on the tubular steel carriage. It rides on non-conductive wheels that also are resistant to attack by chemicals, moisture and oil. The ball and socket swivel locks in any horizontal or vertical position and can be elevated to a height of 5½ ft. above the ground. The carriage also can be collapsed to roll under an obstruction. A 21-ft. 3-conductor Indestructo extension cable completes assembly.

Three assemblies in the line include one to supply power and light as shown in the illustration, one to mount a strip of flood lighting and the third to mount infrared heating lamps. In each case the assembly carries approved rating for 20-amp. load on 110-volt operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

Go After Dormant Scrap

▼ BREVITY—Identify by IEN - 3141 If you write the maker ▲▼

BUDA DIESEL FORK TRUCKS
14 MODELS— CAPACITIES to 7500 lbs.

ONLY BUDA GIVES YOU . . .
- **LOWER OPERATING COST . . .** 50 to 60% Fuel Savings with Diesel Power
- **LESS MAINTENANCE**
- **GREATER SAFETY**—Non-toxic, non-contaminating exhaust
- **LONGER OPERATION**—Between Overhauls

Ask your nearby Buda Material Handling Distributor about the new Buda "FT" Series Diesel or gasoline powered Fork Trucks today. Write for new, colorful Bulletin 1570. It's FREE—there's no obligation. The Buda Company, Harvey, Illinois.

The Line with all 3 for Diversified Handling: TOWING TRACTORS, PLATFORM TRUCKS, FORK LIFT TRUCKS

BUDA

Manufacturers of Material Handling Equipment, Lifting Jacks, Maintenance of Way Products, Earth Drills and Diesel and Gasoline Engines 88-33A

▼ BREVITY—Identify by IEN - 3142 If you write the maker ▲▼

ARMSTRONG *Carbide* TOOL HOLDERS

FOR HIGHER SPEEDS, AND HEAVIER FEEDS

ARMSTRONG Carbide Tool Holders and ARMIDE (Carbide Tipped Cutters come in cased sets for tool rooms and maintenance departments, and individually in all sizes for general machine shop and production turning. They permit not only the ready machining of sand-filled castings, the hardest and toughest steels as well as many heretofore "unmachinable" materials, but also make practical much heavier cuts and cutting speeds up to 600 f.p.m. on ordinary work. They also run from 10 to 100 times as long between regrindings.

WRITE FOR CATALOG

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5243 W. ARMSTRONG AVENUE, CHICAGO 30, U. S. A.
NEW YORK • SAN FRANCISCO
See us at Booth 133 ASTE Show, Chicago

▼ BREVITY—Identify by IEN - 3143 If you write the maker ▲▼

STRETCH-FORM

FOR STRENGTH AND PRODUCTION WITH . . .

BATH UNIVERSAL CONTOUR FORMERS

Now . . . aircraft components* can be formed at high production rate with the powerful **Bath** universal contour former. Blanks of any metal or alloy can be formed to extremely exacting tolerances in one operation. Forming bends of more than 360° and varying curves, *the* **Bath** *machine produces in one operation parts that previously were assembled from separate sections.*

Extruded, rolled, pressed or brake-formed cross sections in any length can be shaped on the **Bath** universal contour former. Twelve models are available with capacities ranging from 12½ to 150 tons to meet every metal contour forming requirement.

*Jet flange rings, shrouds, cases, flame tubes, stiffeners and casings formed in either full circles or segments.

CB THE CYRIL BATH COMPANY

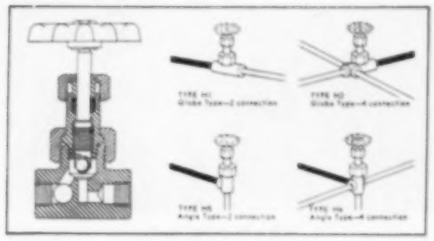
6935 Machinery Avenue • Cleveland 3, Ohio

▼ BREVITY—Identify by IEN-3145 if you write the maker ▼

▼ BREVITY—Identify by IEN-3148 if you write the maker ▼

VALVE . . Free turning ball design, forged steel body, to 3,000 pounds

Source: FOXBORO CO.
42 Neponset Ave., Foxboro, Mass.



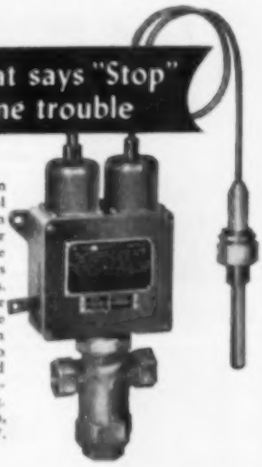
Single unit $4.25 to $6

Hardened ball made of Type-440 stainless steel is mounted to turn freely in a conical seat at the end of the stem in this new valve. It has been put on the market following its use as a part of the company's own meter-manifold assemblies. It is available now from stock for use on liquid, gas or steam at pressures to 3,000 lb. in the one ¼-in. size.

The stem, the packing glands, as well as the ball, are made of stainless steel. The bonnet union nut and body are forged steel. The stem seats in reverse position in the bonnet so the valve can be packed while under line pressure. The ball functions to renew the seat each time the valve is opened and closed. Face-to-face dimension is 2⅛ inches.

▼ BREVITY—Identify by IEN-3151 if you write the maker ▼

Control that says "Stop" to engine trouble



• The No. 530 Sylphon Engine Safety Control gives positive protection against high jacket water temperature and low lube oil pressure. Guards against engine troubles. Can be supplied with or without valve . . . pressure connection . . . or alarm switch. Adaptable to practically any specified conditions. Simply constructed. Self-operating. For complete information, send for Bulletin EN-817.

FULTON SYLPHON
DIVISION
ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 4, TENN.
Temperature Controls • Bellows Devices • Bellows Assemblies
Canadian Representative, Darling Brothers, Montreal

▼ BREVITY—Identify by IEN-3146 if you write the maker ▼

BENJAMIN Reels
will solve your cord problems!

End tripping over extension cords . . . "pull outs" . . . cord damage . . . with the safe convenience of BENJAMIN Reels.

BENJAMIN Reels offer these exclusive advantages:

1. Cord pays out or retracts easily from any direction.
2. Cord "latches" in place at desired length.
3. "Level Wind" attachment rolls cord evenly in reel.
4. Reel won't retract violently.
5. Protected from moisture, dirt, dust, rust. Sturdy . . . assures long trouble-free service.
6. Underwriters listed.

700-20-SJ, For shop and industrial use. Universal overhead mounting bracket. Plugs in wall outlet. Has switch, lamp guard, reflector. Equipped with 20 ft. SJ heavy rubber cord.

700-40-GO, Static grounding reel. Aircord steel galvanized cable and battery clip. Rust-proofed.

Approved by the Air Corps for refuelers.

700-ST, Portable reel connects to wall outlets. Use with office machines, low amperage shop equipment, home appliances. 25 ft. rubber cord.

700-20-SC, Portable extension cord with 100,000 candle power searchlight. Plugs anywhere, can be pointed in any direction. Police, fire departments, plant protection, camps, farms, boats, utilities can use this.

700-18-ML, Mobile reel with floodlight. Garages, service stations, maintenance, show room floodlighing, outdoor lighting. Reel mounted on ball-bearing casters. 20 ft. rubber cord.

BENJAMIN REEL PRODUCTS, INC.
10706 BROADWAY • CLEVELAND 25, OHIO

▼ BREVITY—Identify by IEN-3149 if you write the maker ▼

GRINDING . . Universal machine for woodworking cutters and knives

Source: DEPENDABLE MACHINE CO.
2500 High Point Road, Greensboro, N. C.

Details in Bulletin C-7

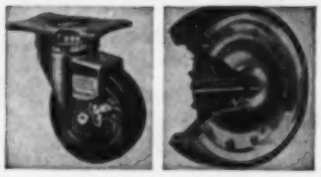
Single knives or complete knife-equipped heads for woodworking equipment can be sharpened and resharpened on this new No. 106-A universal grinding machine. It employs the company's Type G-11 positioning gage which requires a minimum of experience to produce a perfect grind on a complete head assembly. The machine mounts a table on ball-bearing ways for 20 in. of travel.

The wheel head is assembled on a column providing 12 in. of vertical adjustment. A slide permits horizontal adjustment through 7¾ in. and the turret arrangement on the column makes it possible to rotate the complete head through 300 degrees. The motor is a ⅝-hp. unit for operation on 110, 220 or 440-volt ac. as specified. Speed is 3,600 rpm. The wheel is standard at 6 in. in diameter. Straight or saucer design can be employed.

Hand wheels at the front provide vertical adjustment for the column and control travel of the table. A hand wheel at the rear is turned to set up the head initially. A wheel at the operator's side provides for final adjustment and feed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

▼ BREVITY—Identify by IEN-3150 if you write the maker ▼



DARNELL CASTERS

- made in all sizes in both swivel and stationary types
- furnished with either semi-steel or rubber tread wheels
- assures maximum floor protection and reduces wear on equipment
- plus an appreciable increase in employee efficiency

DARNELL CORP. LTD., 60 WALKER ST., NEW YORK, N. Y.
LONG BEACH, CALIFORNIA, 36 N. CLINTON, CHICAGO, ILL.

▼ BREVITY—Identify by IEN-3152 if you write the maker ▼

After years of wear and tear

Drawings are reclaimed without costly retracing

A case history based on the experiences of the Buflovak Equipment Div., Blaw-Knox Corp., Buffalo, N. Y.

When any one of the 80,000 odd drawings in the Buflovak files is incapable of producing the sharp, clean blueprints needed for the shop—there's no redrafting problem.

"New drawings" are made from old ones—quickly, inexpensively with Kodagraph Autopositive Paper.

This revolutionary photographic intermediate material intensifies weak line detail, drops out stains, creases . . . produces fast-printing duplicate originals with dense photographic black lines on a durable, evenly translucent white paper base.

And the job's done at low cost because "Autopositive" is unique—a photographic paper that can be handled in ordinary room light . . . that produces positive copies directly—without a negative step. Also, it can be exposed in standard print-making equipment . . . processed in standard photographic solutions. *Convenience, economy*—from start to finish. And it's the same story in subsequent print production: Autopositive intermediates print back at practical, uniform speeds . . . and produce sparkling prints even after hundreds of "run-throughs."

Kodagraph Autopositive Paper
"THE BIG NEW PLUS"
in engineering drawing reproduction

Write today for a free copy of "New Short Cuts and Savings." This interesting, well-illustrated booklet gives complete information on revolutionary Kodagraph Autopositive Paper . . . lists a selection of case histories which illustrates the many ways it is cutting costs in thousands of drafting rooms today.

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

BREVITY—Identify by IEN - 3154 If you write the maker

SAVE HANDLING TIME
AVOID CONFUSION
FACILITATE STORAGE

The MHS Work Carrier is a sturdy, flexible device for the transfer, storage or shipment of work parts or sub-assemblies. Stacked vertically, by means of the nesting plugs at the corners, these units constitute a rigid storage bin structure. Mounted on casters, they serve as factory trucks for the transfer of parts between processes. They are easily handled by the conventional lift truck or crane.

Write for Catalog R 2 for detailed specifications.

Mechanical Handling Systems, Inc.
4605 NANCY AVE. • DETROIT 12, MICH.
Offices in Principal Cities

MHS

BREVITY—Identify by IEN - 3155 If you write the maker

Worth a Second Look

Since '26 JOY electrical plugs and receptacles have been Industry's outstanding value for portable power transmission. Molded as trim, one-piece (Neoprene/rubber) units they can't crack or shatter . . . won't lose their shape and are amazingly resistant to falls, blows, acids, oils, moisture or sunlight. Thousands of styles and shapes ranging from "cartridge-size" models to mammoth round (S.P.B.) units used in marine and mining applications have been developed. NO question about it . . . the JOY electrical connector line deserves a "second look". Ask for your free copy of Bulletin MC108

ILLUSTRATION SHOWS JOY ROUND STYLE PORTABLE PLUGS

OVER 100 YEARS ENGINEERING LEADERSHIP

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA
IN CANADA, JOY MANUFACTURING COMPANY (CANADA), LTD., GALT, ONTARIO

BREVITY—Identify by IEN - 3156 If you write the maker

IF YOU WALK ON IT IT CALLS FOR OPEN STEEL FLOORING

Open Steel Flooring is durable steel grating that can be walked on, worked on, and that takes wear and tear of vehicle wheels . . . yet it is of open, light-weight construction to provide maximum light, air and cleanliness. Low erection costs and almost non-existent maintenance make it truly economical. And, its great versatility makes Open Steel Flooring easily adaptable to any factory or plant application—indoors or outdoors.

OPEN STEEL FLOORING INSTITUTE, INC.
2311-6 First National Bank Building
Pittsburgh 22, Pa.

This insignia identifies member companies of the Open Steel Flooring Institute—all of whom meet its rigid specifications which assure quality-engineered open steel flooring.

Send for a FREE copy of this new informative IDEA BOOK on the uses of Open Steel Flooring

BREVITY—Identify by IEN - 3157 If you write the maker

FASTENING . . Quick connector for the ends of rope, cable, chain

Source: BRUMMEL HOOK CO.
1617-21 W. Winona St., Chicago 40, Ill.

It's a Brummel Hook

New C-shaped hook or link is designed so the open ends approach closely to each other and taper down for entrance of a duplicate unit to operate as a pair. When the two are connected and brought into load-carrying position they cannot shake loose or drop apart. Several sizes and types are available in bronze or aluminum-base Ternalloy. Application can be made wherever a quick means is required to apply a cable, rope or chain for load lifting, equipment connections.

BREVITY—Identify by IEN - 3158 If you write the maker

MAGNIFYING . . Microscope for general laboratory application

Source: AMERICAN OPTICAL CO.
Box AA, Buffalo 15, N. Y.

Focuses smoothly

The light source in this new dark-field microscope produces a cone of light to strike the specimen from all sides at an angle and avoid entering the objective. It makes the new instrument suitable for examination of micro particles of a refractive index and color similar to the medium in which they exist so they cannot be seen readily in the ordinary microscope bright field. The light source can be centered in relation to the condenser optics. The condenser is adjustable for slide thickness from 1.15 to 1.25 mm. A special 97X oil-immersion objective is supplied with a built-in iris diaphragm.

Monocular as well as binocular assemblies are available, both with hinged sub-stages and the company's Pinch-Grip mechanical stage to permit interchange of slides without disturbing the settings.

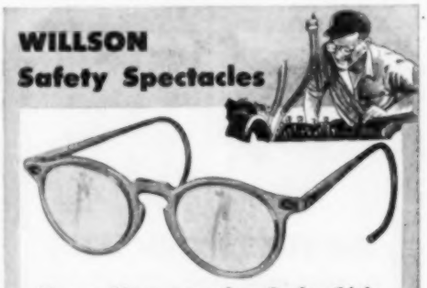
IEN - 3159

Photographic copies of patent abstracts are being produced by Picturesort Company on 4 by 6-in. cards from the weekly issues of the Patent Gazette. They are being offered on a subscription basis. The cards are shipped each week. Billing for the new abstract service is monthly.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3160 If you write the maker

WILLSON Safety Spectacles



Keep You on the Safe Side
Popular WK Plastic Frame Style with

- WILLSON Super-Tough* Lenses—flat or curved, clear or green
- Hi-Line, half-plastic cable temples
- Non-flammable, sheet stock plastic frame
- Two lens sizes, four bridge sizes

*Reg. U. S. Pat. Off.

More than 300 other Eye and Respiratory Safety Devices carry this trademark

WILLSON
Dependable Products Since 1870

WILLSON PRODUCTS, INC. • 217 Washington St., Reading, Pa.

BREVITY—Identify by IEN - 3161 If you write the maker

SAVES TIME EFFORT ERRORS

LABELON PLASTIC *Write on it* **TAPE**

WON'T SMUDGE • STAYS CLEAN FOREVER • RESISTS: DIRT · OIL WATER · ACIDS

STICKS WITHOUT MOISTENING

PERFECT FOR FACTORY, LABORATORY, OFFICE

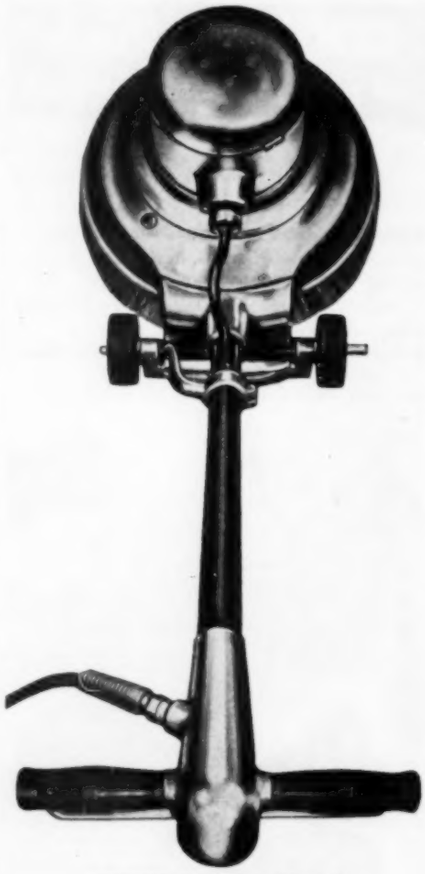
Nothing else like LABELON—the amazing "Write on it" plastic tape! Use it to label stockroom shelves, bins, tools, hard-to-mark parts; for indicating rejects and service department repairs; for marking laboratory equipment supplies, experiments; for panelboards or wiring; for office files, folders, etc.

LABELON TAPE sticks without moistening to any smooth, clean surface—yet can be quickly removed. Resists heat up to 150°. Just write on it with pencil or stylus—message won't smudge. Choice of widths and colors. Handy dispenser with cutter bar. See your nearest dealer, or write for sample and prices.

Write to Dept. IEN

LABELON TAPE CO., Inc.
450 Atlantic Ave., Rochester 9, N.Y.

BREVITY—Identify by IEN - 3162 If you write the maker



THERE'S NOTHING LIKE A

Clarke

You name the problem . . . Clarke has the answer. For every phase of floor maintenance there's a Clarke machine to deliver year after year of rugged, dependable service. For well-kept floors at lower cost there's nothing like a Clarke!

Write for Full Information

CLARKE SANDING MACHINE COMPANY
283 Clay Street Muskegon, Michigan

Sales Representatives and Service Branches in Principal Cities

Porter-Cable floor sanders and edgers are now manufactured and distributed by Clarke Sanding Machine Company. Sales and service of these machines is available through Clarke authorized sales representatives and service branches.

BREVITY—Identify by IEN - 3164 If you write the maker

ALUMINUM LOUISVILLE LADDERS

STAGES 20 Inches Wide

PLANKS 12 Inches Wide

Light weight durable Contractor's Equipment designed for heavy duty service. Made of extruded aluminum rails and rungs securely riveted with the Louisville Safe Weight method for strength and serviceability. Aluminum channel decking ensures light weight—knurled surface provides sure footing.

ALSO COMPLETE LINE OF LADDERS
SEE YOUR DEALER OR WRITE US

LOUISVILLE LADDER COMPANY
1101 W. Oak St. — Dept. 2A — Louisville 10, Ky.

BREVITY—Identify by IEN - 3165 If you write the maker

For Access Panel and Door Assemblies

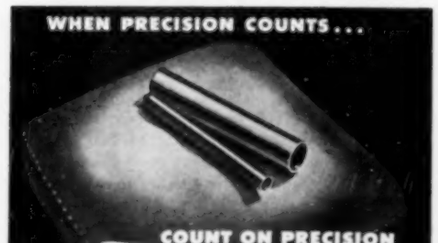
QUICK-LOCK speeds up mounting and demounting detachable panels. A 90° turn locks and unlocks it in a jiffy. Flexible mounting and tapered stud makes it ideal for assembling curved sheets and insures a tight fit when locked. Stud is self-ejecting when unlocked. Minimum deflection is assured—only initial loads are carried by the helical spring. Solid supports take up increased loads.

Call in a Simmons Engineer and compare QUICK-LOCK's economy with your present fastening method.

SIMMONS FASTENERS
SPRING-LOCK • QUICK-LOCK • ROTO-LOCK
SIMMONS FASTENER CORP., 1758 N. BROADWAY, ALBANY, N. Y.

BREVITY—Identify by IEN - 3166 If you write the maker

WHEN PRECISION COUNTS...



COUNT ON PRECISION

FINE FINISH ...
ACCURATE, NON-FERROUS TUBING
FROM ½" O. D. TO 0.010" O. D.

Here is fine seamless tubing made to Nth degree accuracy to meet the most exacting requirements and performance tests of all products.

"Precision Control" in heat treating is achieved in continuous hydrogen atmosphere annealing furnaces. Makes possible bright, scratch-free, clean finishes . . . extremely close tolerances . . . exact uniformity.

"Precision Controlled" inspection carefully checks all tubing produced. Precision makes tubing in all shapes, and also performed, in most alloys including aluminum, copper, brass, phosphor-bronze, nickel-silver, cupro-nickel, nickel, monel and stainless steel.

Whatever your tubing needs in designing or manufacturing products which require fine, accurate tubing, count on Precision for precision tubing that meets the most exacting specifications.

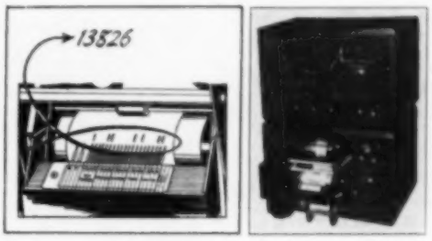
PRECISION TUBE COMPANY, DEPT. 7
3824 TERRACE STREET
PHILA. 28, PA.

PRECISION TUBE COMPANY, INC.

BREVITY—Identify by IEN - 3167 If you write the maker

COUNTING . . Strip chart recorder for use with company's electronic counters

Source: POTTER INSTRUMENT CO.
113-17 Cutter Mill Road, Great Neck, N. Y.



To "remember" many counts

Time intervals to 0.1 second can be recorded in increments of 2.5 microseconds by application of this new motor-driven strip chart recorder and the company's electronic counting equipment. The record is made on a continuous roll of electrically-sensitive Teledeltos paper by a bank of stylii actuated by the counter. Each stylus corresponds to one lamp in the 1-2-4-8 readout. Black traces left on the paper are read in the same manner as the readout lamps. The record is indexed intermittently and is controlled by the event being measured.

The paper roll measures 500 ft. in length and takes as many as 150 measurements per second with six digits for each. Certain stylii can be used for timing or other reference points when fewer than the six digits are required in the count. At relatively slow indexing speeds of 2½ ips., the stylii mark a row of dots. At higher speed to 20 ips. the dots become short dash lines. Operation is on 110-volt 60-cycle ac. The recorder panel fits a 19-in. rack, is 12½ in. height.

BREVITY—Identify by IEN - 3168 If you write the maker

MARKING . . Pneumatic machine for deep impressions in tough metal

Source: JAS. H. MATTHEWS & CO.
3948 Forbes St., Pittsburgh 13, Pa.

Operates without shock

Compressed air from a shop source connects through a regulator to a foot-operated valve in the base of this new machine. The valve controls vertical movement of the work table to raise and hold it upward against a marking die with pressure to 6,000 pounds.

The die is secured in a reciprocating slide operated by a horizontal air cylinder between two limit switches that control reciprocation. This movement is started automatically after a short delay interval upon depressing the foot-operating valve. Thus the machine will make several passes over the work, increasing depth of impression on each pass, until the operator releases the valve.

The machine can be employed for single-stroke marking by positioning a switch on the side of the housing. It measures 22 by 30 in. at its base and stands 56½ in. in height. Round parts are held in a cradle roll. Gages position flat work.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

BREVITY—Identify by IEN - 3169 If you write the maker

Here's Magnetic Protection Against Tramp Iron At LOWEST POSSIBLE COST!

Chocolate going over Perma-Plate at rate of 10,000 lbs. hr. Magnet picks up various forms of iron filings.

Dings Perma-Plate Magnet
NON-ELECTRIC • PERMANENT • LIGHTWEIGHT

ABOLISH tramp iron threats to your machinery. Gain constant, permanent protection at low cost. The Dings Perma-Plate requires no electricity—no electrical accessories—no maintenance.

Easily installed in chutes, ducts, trays, spouts, over conveyor belts, etc., the powerful Perma-Plate gives you *maximum* tramp iron removal—gives you CERTIFIED magnetic strength, GUARANTEED magnetic permanence. Learn the details—SEND for BULLETIN.

DINGS MAGNETIC SEPARATOR COMPANY
4799 W. Electric Ave., Milwaukee, Wis.
All Types of Electric and Non-Electric Magnetic Separators for Every Purpose.

Dings Certified MAGNETIC SEPARATOR

BREVITY—Identify by IEN - 3170 If you write the maker

FOR THE DEFENSE

. . . of your machinery and equipment, use a CLEMENTS-CADILLAC blower-suction cleaner to fight Dirt, Dust, and Grit. It routs these enemies effectively, quickly, economically.

Eligible under C. M. P. regulations.

SAVE
TIME • MONEY
PREVENT DAMAGE TO MACHINERY WITH THE

Made in 5 models with attachments for every cleaning job.

CLEMENTS CADILLAC
PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE., CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

BREVITY—Identify by IEN - 3171 If you write the maker

Chicago MOUNTED Wheels

...now even better with 79E BOND

Buy Chicago Mounted Wheels—bonded with 79E Bond—and you'll never use any other!

79E—a tough new bond exclusive with Chicago Wheel—is the sensation of the industry . . . it does a BETTER grinding, burring, and finishing job FASTER. A size and shape for every use. Deliveries are excellent—Order today.

CHICAGO WHEEL & Mfg. Co.
Dept. N • 1101 West Monroe Street, Chicago 7

BREVITY—Identify by IEN - 3172 If you write the maker

MANY INDUSTRIAL ROLL PROBLEMS are solved by using

SHAF-TITE ROLLS

Minimum Size 3" diameter and 3" face length

Many patented constructions provide strongest possible shaft setting. Your choice of many different types and materials—wood, rubber, iron, brass, stainless steel plastic, etc. Whatever your roll problem, put it up to Rodney Hunt.

SEND FOR NEW CATALOG NO. 48
Most complete publication of its kind

Industrial Roll Division
RODNEY HUNT MACHINE CO.

BREVITY—Identify by IEN - 3173 If you write the maker

SHELDON
CHICAGO

A better Lathe from any angle

Judge it from any angle: for accuracy, stamina, rigidity or capacity (for size). Check its component parts—its spindle, spindle bearings, lead screw, apron, carriage, bed, gearing, or the power delivered by its drive—you will find the SHELDON Lathe a quality tool both in appearance and "under the hood".

Write for Catalog

SHELDON MACHINE CO., Inc., 4208 North Knox Ave., Chicago 41, Ill.

BREVITY—Identify by IEN - 3174 If you write the maker

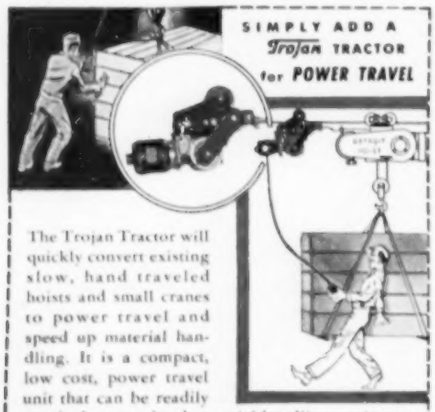
Take surface temperatures quickly, accurately... with the

Pyrocon

The handy Alnor Pyrocon is unequaled for quick, accurate reading of all surface temperatures . . . whether surfaces are metallic or non-metallic, flat or curved. Accurate temperatures are easily understood on the Pyrocon's direct reading scale face . . . without interpolation or need of conversion tables. A wide selection of thermocouples and extension arms permits adaptation to many types of service. For complete details and prices, send for Bulletin No. 4257. Illinois Testing Laboratories Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

BREVITY—Identify by IEN - 3175 If you write the maker



The Trojan Tractor will quickly convert existing slow, hand traveled hoists and small cranes to power travel and speed up material handling. It is a compact, low cost, power travel unit that can be readily attached to overhead material handling equipment by means of a simple draw bar.

Send in this advertisement for more information and a copy of Trojan Tractor Bulletin 810; just fill in company name and address.

DETROIT HOIST & MACHINE CO.
8227 MORROW ST. • DETROIT 11, MICH.

Company _____

Address _____

BREVITY—Identify by IEN - 3176 If you write the maker

RHEOSTAT . . Circular design rates 50 watts on constant duty

Source: HARDWICK HINDLE INC.
30 Harmon St., Newark 5, N. J.

Designed to "take it"

Type H-50 is a new rheostat developed for constant-duty application in the industrial field. It is available in a range of capacities, minimum to 0.5 ohm and 10 amp., in approximately 25 steps, maximum to 10,000 ohms and 0.07 amp. in about 750 steps. In each case diameter of the base is 2⅝ in. with shaft rotation at about 305 degrees. The ¼-in. shaft projects ½ in. beyond the bushing.

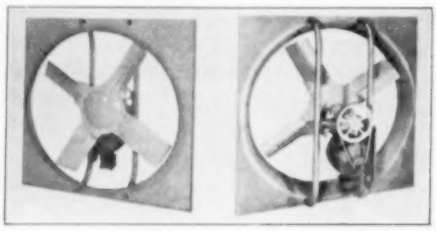
Toroidal ceramic form is wound with resistance wire, is bonded to a refractory base with the company's new blue-gray enamel coating. The enamel is proof against thermal shock. It protects the winding in heavy-duty service and under extremes of humidity.

The contact arm applies a bus-bar type of brush to minimize resistance between the element and the collector ring. The arrangement is self-adjusting for positive smooth electric control. Terminals are corrosion-resistant alloy. The design conforms with specifications including JAN-R-22, RTMA., NEMA., and Underwriters' Laboratories.

BREVITY—Identify by IEN - 3177 If you write the maker

VENTILATING . . Motor driven fan, panel mounted, ball bearing design

Source: AMERICAN MACHINE & METALS INC.
552-56 12th Ave., East Moline, Ill.



Prices start at $188

Fan diameters measure 24, 30 and 36 in. in this new Panel Vent Set for use at free delivery or static pressure to ½ inch. Drive is by a belt-connected motor rating ⅓ or ¾ hp. Free delivery rating is 5,590 to 13,190 cfm. The square panel measures 30, 37 or 43 inches. Finish is in gray baked enamel. Safety screens can be specified.

IEN-3178

Glass particles cannot fly from a breaking incandescent lamp when it has been coated with Thompson Tecogel. It is a clear lacquer-like fluid for hot-dip application. It sets in two minutes, dries hard in about five hours. It does not require renewing after initial application.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

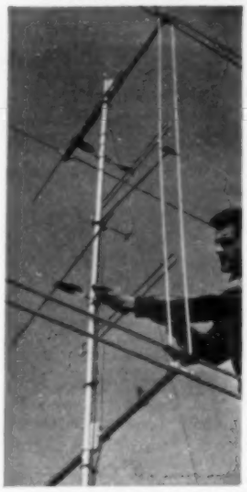
BREVITY—Identify by IEN - 3179 If you write the maker

Spotlight your product with a sparkling metal name plate that reflects quality, lends distinction and assures permanent readability. Ask us to quote on name and instruction plates, dials, panels, etc. We also apply special finishes to aluminum products and parts including ANODIZING by the exclusive Alumilite process. Write today for information and quotations.

CHICAGO THRIFT-ETCHING CORPORATION
1555 North Sheffield Ave., Chicago 22, Illinois, Dept. F
SUBSIDIARY OF DODGE MFG. CORPORATION, MISHAWAKA, IND.

BREVITY—Identify by IEN - 3180 If you write the maker

TELEVISION TUBING PROTECTED FROM CORROSION WITH VINSYNITE-VINYL SYSTEM



Tight-Clinging Vinsynite forms perfect base for finish coat

Because of its strength and rigidity, Jones & Laughlin Steel Corporation's PERMA-TUBE has many mechanical tubing applications, and because of its Vinsynite-Vinyl coating, it has the extra advantages of corrosion resistance and attractive appearance.

The Vinsynite-Vinyl system is applicable to any metal. It is economical to apply because it requires no expensive pre-treating equipment; it can be applied like paint by brush, spray or dip. Its corrosion resistance has been proven by ASTM tests (no corrosion after 864-hour salt spray test) and actual performance.

Write for your copy of our report on Vinsynite's corrosion resistance under varying exposure conditions.

SPECIALTY COATINGS, INC.
DIVISION OF THOMPSON & COMPANY
1085 John Street, Oakmont, Pa.

BREVITY—Identify by IEN - 3181 If you write the maker

USE PROVED Products

UNDERWOOD TYPEWRITER, *with front cover removed to show type bar cushion supporting type bars. PLIOBOND gives lasting bond between metal and neoprene.*

Pliobond

only satisfactory adhesive to do the job, says user

AFTER trying all known adhesives, Underwood Corporation found that ONLY PLIOBOND would give consistently perfect bonds between metal and neoprene in assembling type bar cushions.

Parts are given a uniform coating of PLIOBOND, then oven-dried at 200° F. and assembled under heat and pressure. Bond formed in this way meets all engineering specifications of the user, resists oil and cleaning fluids.

PLIOBOND "bonds anything to anything" —may be applied by brushing, spraying, roller coating, knife application or dipping. Surface preparation and bonding method varies with materials being bonded, so ask your Chemical Division representative for details, or write:

Goodyear, Chemical Division
Akron 16, Ohio

GOODYEAR

We think you'll like "THE GREATEST STORY EVER TOLD" Every Sunday — ABC Network

Pliobond—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

BREVITY—Identify by IEN - 3183 If you write the maker

RESTOREX

SAFELY CLEANS HARD-AS-ROCK PAINT BRUSHES

SOFT PLIABLE BRISTLES OVERNIGHT

Soak in Restorex — rinse in water . . . you have a new brush overnight! Hard or gooey bristles come out soft, pliable and clean — ready for any color paint.

Don't "Junk" old brushes . . . NOW you can clean and rejuvenate them with RESTOREX. Not a solvent—Restorex cleans the modern, safe way, without damaging bristles or rubber setting. Restorex will not evaporate—gives off no toxic fumes. No danger to workers—Restorex is safe enough for washing hands and face!

Send For Full Information Today!

the PENETONE co.
BOX IEN-352, TENAFLY, NEW JERSEY

BREVITY—Identify by IEN - 3184 If you write the maker

KORFUND Type LK

for EFFICIENT VIBRATION CONTROL

Vibration transmitted from punch presses, shears, compressors and other machines is destructive and costly. Vibration transmitted into precision machines causes rejects, cuts production.

Both can be prevented—completely and economically.

Korfund Type LK Steel-Spring Vibro-Isolators provide complete Vibration Control. Rugged construction means longer life for long-run economy. Built-in levelling screw eliminates shimming. Adjustable built-in resilient checks act as stabilizers. Load range, 50# to 17,000# with deflections up to 1¼" depending on size.

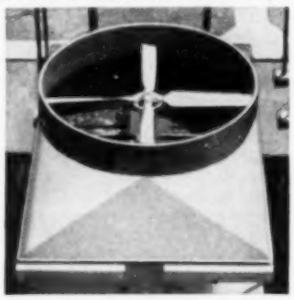
Write for your free copy of Bulletin LK-552. The complete line of Korfund Vibration Control products is described in Bulletin G-104, with a selector chart which gives recommendations for both normal and critical conditions. See Sweet's Catalog Files, or write us for your free copy today. Representatives in principal cities.

THE KORFUND COMPANY, INC.
KORFUND VIBRATION CONTROL — SPRINGS — RUBBER — CORK
48-35E Thirty Second Place • Long Island City 1, N. Y.
In Canada: 2040 Victoria St., Montreal 2

BREVITY—Identify by IEN - 3185 If you write the maker

Aeromaster

FANS Cut Power Costs 10%!



Aerodynamic design provides more cooling per horsepower

KOPPERS Aeromaster Fans are available for any and every sizable industrial cooling application. Standard models range from 5 to 24 ft. dia., with 4, 6 or 8 blades per fan. Capacities up to 750,000 c.f.m. Engineering service furnished for special low pressure propeller fan installations. Sales engineers available in all principal U.S. cities, as well as in Europe. For complete, detailed information on how Aeromaster Fans can save you money, tell us the size and type of equipment to be cooled. Address your letter to: KOPPERS COMPANY, INC., Aeromaster Fans, 273 Scott Street, Baltimore 3, Maryland.

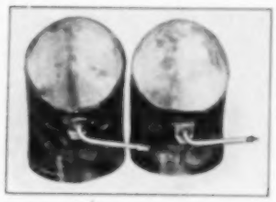
KOPPERS

KOPPERS COMPANY, INC.

BREVITY—Identify by IEN - 3186 If you write the maker

WHEEL . . Pneumatic inner tube for use in lining equipment tires

Source: B. F. GOODRICH CO.
448-52 S. Main St., Akron 11, Ohio



New section shown to left

Air retention for 12 to 18 months with only minor reduction in pressure characterizes a new inner tube for use in mining-equipment tires. It is made of butyl rubber in three sizes, 7.00, 7.50, and 8.25-15. The rubber wall is about twice as thick as in a conventional tube. A special valve cap is supplied. It can be put on or taken off only with a small key. Application include use on shuttle cars, low platform trailers, lift trucks and similar vehicles.

BREVITY—Identify by IEN - 3187 If you write the maker

CONTACTOR . . Solenoid operated, 25 and 50 amp., specified holes

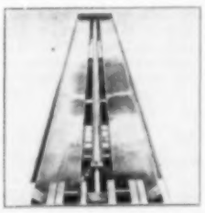
Source: ZENITH ELECTRIC CO.
154 W. Walton St., Chicago 10, Ill.

Solenoid mounted at the top of this new contactor carries a bar that mounts fingers equipped with silver contacts to make and break circuits on both sides of the bar with stationary contacts also silver faced. Two sizes rate 25 and 50 amperes. Either can be supplied with a desired number of holes. The unit is designed to withstand loads based on Type-C lamps. It is known as Type SC-53.

BREVITY—Identify by IEN - 3188 If you write the maker

CYLINDER . . Long stroke hydraulic, powers carriage on a honing machine

Source: MILLER MOTOR CO.
2002-10 N. Hawthorne Ave., Melrose Park, Ill.



No-sag design that prevents the piston rod from moving out of line when extended has enabled the company to design a hydraulic cylinder with a 22-ft. stroke to operate the carriage on a horizontal honing machine. Bore is 4 inches. Rod diameter is 2½ inches. The rod is chromium-plated. The assembly is the company's standard design with square steel heads and caps, dirt-wiper seal, and a rod that requires no adjustment in operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3189 If you write the maker

STANDARDIZE with OHIO Stock Distributors

• Call him, he is engineered to keep your plant and product moving.

DISTRIBUTORS AND REPRESENTATIVES

*Akron, Ohio
Hardware & Supply Co.
*Baltimore, Md.
L. A. Benson Co., Inc.
*Brooklyn 8, N. Y.
(Gears) Nationale Leather Belting Co., Inc.
Buffalo, N. Y.
Wm. J. Abel
*A. H. Emery Belting Co.
*Chicago, Illinois
Schmitt Engineering Co.
*Cleveland 2, Ohio
J. A. Sherman Co.
*Cleveland 10, Ohio
Ohio Gear Co.
Dayton, Ohio
W. J. Hess
*Detroit 2, Michigan
Abrasive and Supply Co.
*Erie, Pa.
Tremont Co.
*Findlay, Ohio
Boston & Transmission Co.
*Grand Rapids 2, Mich.
J. P. Reynolds Co.
*Hagerstown, Md.
Hagerstown Equipment Co.
Houston 3, Texas
Lowen Industrial Supply
Houston 3, Texas
Belting & Bearing Service, Inc.
*Indianapolis, Indiana
A. B. Young
*Kansas City 2, (North) Mo.
Sears Equ. & Supply Corp.
*Los Angeles 21, Calif.
J. W. Winter Chain & Gear Co.
Louisville 2, Ky.
Alfred Halstead
*Massillon, Ohio
Hardware & Supply Co.
*Memphis 1, Tenn.
Memphis Belting & Supply Co.
*Miami 5, Fla.
General Equip. & Supply, Inc.
*Milwaukee 1, Wisc.
Albert F. Scott & Co.
*Minneapolis, Minn.
Industrial Supply Co.
*Muskegon, Mich.
Lakeshore Machinery & Supply Co.
*New Orleans, La.
(Gears) S. J. Friona Co.
(Reducers) Woodward Wright Co., Inc.
*New York 7, N. Y.
(Reducers) Parkes Transmissions Co.
(Gears) Atlantic Gear Works
*Norfolk 2, Va.
(Gears) Bernstein Bros. Inc.
Portsmouth, Rhode Island
George H. Peaslee
*Philadelphia, Pa.
Bernstein Bros. Inc.
Richards Belting & Equipment Co.
Robert J. Latimer Co.
*Pittsburgh, Pa.
Bernard Supply Co., Inc.
*Pittsburgh, Pa.
Eastern Mechanical Supply Co.
*Portland 14, Oregon
J. W. Winter Chain & Gear Co.
*Rochester 4, N. Y.
H. H. Trow and Sons, Inc.
*San Francisco, Calif.
The Adam Hill Co.
*St. Louis, Mo.
The Rainmaker Co.
*Syracuse, N. Y.
H. and S. Inc.
*Tulsa, Okla.
The Service & Transmission Co.
IN CANADA: *Montreal, Quebec
John Strathmore & Sons, Ltd.
*Toronto, Ontario
Charles Cartlidge

ESTABLISHED 1915
THE OHIO GEAR COMPANY
1349 EAST 179th STREET • CLEVELAND 10, OHIO

BREVITY—Identify by IEN - 3190 If you write the maker

For Cost-Cutting Ordnance Production plus QUICK CONVERSION to changing needs

MULTIPRESS

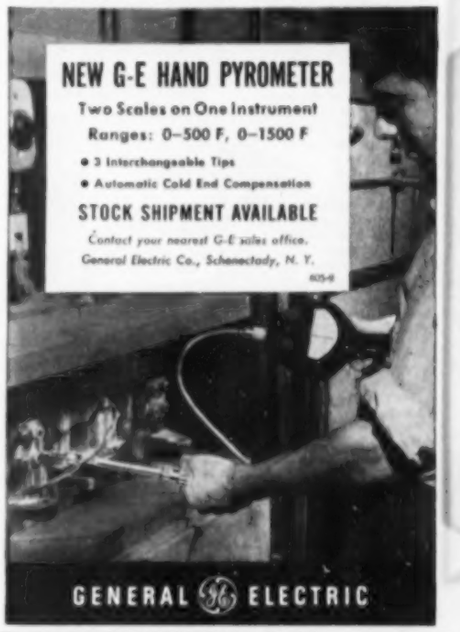
In addition to outstanding records of higher speed and accuracy on an amazing range of production operations — Multipress cuts conversion costs *to the bone*. Quickly adaptable to hundreds of ordnance jobs *now*, it will save time and money *every time your* production needs change. Eight Multipress frame sizes can be equipped for almost any ram action or operating sequence, with either manual or automatic controls. Multipress Index Table Feeds and other production-speeding auxiliary equipment are easily attached. Capacities: one to fifty tons. Write today for full details.

The 35-ton Multipress above bends shells of double previous speeds . . . avoids fracture and work-hardening of bending metal . . . leaves no die-parting marks . . . gets a uniformly closer fit.

DENISON HydrOIL ics

The DENISON Engineering Co.
1150 Dublin Road
Columbus 16, Ohio

BREVITY—Identify by IEN - 3191 If you write the maker



BREVITY—Identify by IEN - 3192 If you write the maker

HANDLE LIQUIDS this

SAFER BETTER WAY!

New Tokheim Pumps—a Great Step Forward in Industrial Safety

For safer, better liquid handling, equip your plant with new Tokheim double-action hand pumps. Stop wasteful dripping and slippery floors. Reduce fire hazard and accidents common to other methods of liquid transfer. Fast double-action speeds production, reduces operating costs. UL-approved for petroleum liquids—ideal for many others. Available in hose and spout models—for drums, skid tanks and underground installations.

Order from your dealer, your oil company or your Tokheim representative. Write factory for literature.

TOKHEIM DOUBLE-ACTION HAND PUMPS

General Products Division
TOKHEIM OIL TANK AND PUMP CO.
1654 Wabash Ave., Fort Wayne 1, Ind.
Factory Branch: 1309 Howard St., San Francisco 3, Cal.

BREVITY—Identify by IEN - 3193 If you write the maker

- It's fast. No shutdown for refill!
- Pumps direct from original containers!
- Cuts cleaning time in half!
- Non-tip dolly goes anywhere—up or down stairs—inside or outside the plant.

FREE—write now for literature giving full data. Alemite, Dept. B-32, 1830 Diversey Pkwy., Chicago 14, Illinois.

ALEMITE Versatal

BREVITY—Identify by IEN - 3194 If you write the maker

NEW Clarin TABLET ARM CHAIR

that FOLDS - Is Adapted for Multiple Uses

It is destined to make its mark as one of the most useful adjuncts to portable seating ever devised.

This FOLDING TABLET ARM CHAIR is just the thing for—

SALES CONFERENCES, DEPARTMENTAL MEETINGS, GROUP DISCUSSIONS, LECTURES, TAKING MINUTES, NOTES, DICTATION, etc.

The arm is an integral part of the chair — NOT AN ATTACHMENT. It may be adjusted to several positions—

1) Raised upright to permit free ingress and egress.
2) Completely lowered to the side.
3) Folded flat against the seat for compact storage.

Doubly Reinforced Steel Frame with Plywood Seat and Solid Wood Arm. Available with Seat only, or Seat and Back upholstered. Rubber Feet prevent noise and marring.

Folds to 3" thin.

The Only Tablet Arm Chair of its kind anywhere.

Write today for folder, prices and delivery.

CLARIN MFG. COMPANY
4640 West Harrison Street, Dept. 30, CHICAGO 44, ILL.

BREVITY—Identify by IEN - 3195 If you write the maker

CUT KEYWAYS QUICK

— with a du Mont *Minute Man* Keyway Broach Kit you can cut keyways by hand in gears, milling cutters, pulley hubs, collars, couplings, etc., in SIXTY SECONDS EACH

CUT KEYWAY COST

— with the *Minute Man* Broach you cut keyways for as little as ONE CENT EACH

CUT ALL SIZES OF KEYWAYS

— any width from 1/8" to 1", in any bore from 1/4" to 3"; 21 standard *Minute Man* Kits; 23 standard sizes of broaches; 59 standard size bushings; and a wide range of production type guideless broaches.

COMPLETE SPECIFICATIONS AND PRICES? MAIL THIS COUPON

The du MONT CORPORATION, Greenfield, Mass.

Please mail descriptive folder and price list N on *Minute Man Keyway Broaches and Kits* to:

Name.....

Company.....

Address.....

BREVITY—Identify by IEN - 3196 If you write the maker

LATHE . . Cabinet mounted assembly swings 12 in., 1-in. collet capacity

Source: ATLAS PRESS CO.
1891 N. Pitcher St., Kalamazoo, Mich.

Cabinet encloses drive

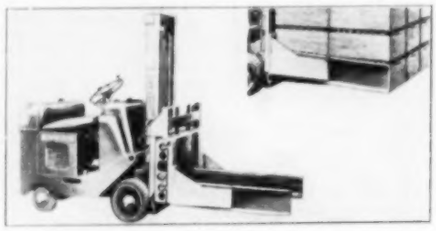
The company announces availability of its Atlas-Clausing Series-6300 lathe following take-over of manufacture and sale of the previously developed Clausing machine. The lathe has a 1⅝-in. through hole in its spindle head, it takes collets for work capacity to 1 in., mounts its spindle on Timken tapered bearings in an enclosed headstock.

The user can specify a counter-shaft drive with eight speeds between 50 and 1,300 rpm. or a variable-speed drive for stepless speed adjustment between 30 and 1,400 rpm. The three bed lengths provide for 24, 36 and 48 in. between centers. Feed range is between 0.0013 and 0.009 in. per revolution of the spindle.

BREVITY—Identify by IEN - 3197 If you write the maker

TRUCK . . Load clamp attachment grips load by hydraulic side pressure

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio



Clamp pivoted to equalize pressure

Multiple tiers and rows of loaded boxes can be picked up for movement to a new location by this new hydraulic load-clamp attachment on the company's fork-lift trucks. The design was made initially to handle fruit from incoming trucks through warehousing and palleting prior to delivery. Clamping action is by hydraulic cylinders in the power unit back of the clamping arms. Pressure is supplied by the truck's hydraulic pump. Control centers at the operator's position.

IEN - 3198

Ten inches of pipe with a plate welded over one end and a handle and hook on the side makes a first-class cup for use in pairs on the ends of a chain sling to carry shafts. The pipe cups fit over the shaft ends loosely to provide a secure lifting grip. Your own welder can make them.

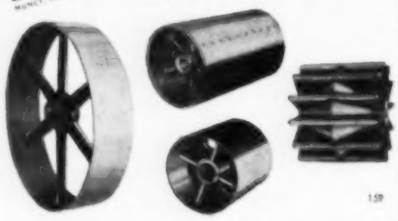
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3199 If you write the maker

SPROUT WALDRON MUNCY PENNSYLVANIA

PULLEYS

SOLID FACE and BELT SAVER



In handling rough, abrasive materials, S/W exclusive Belt Saver Pulleys are lengthening belt life as much as 400%. Equally well recognized is the S/W Blue Face Pulley Line in standard and made-to-order types and sizes. Write today for literature. Sprout-Waldron & Co., Inc., 5 Logan Street, Muncy, Penna.

Vertical Mixers, Attrition Mills, Rotary Feeders, Ribbon Type Mixers, Crushers, Knife Cutters, Continuous Mixers, Roller Mills, Separators, Pulleys

SPROUT-WALDRON

BREVITY—Identify by IEN - 3200 If you write the maker

Chem-Board Tote Boxes
HELP ARMAMENT PROGRAM

All kinds of materials, parts and sub-assemblies are flowing to production lines efficiently and economically in Convoy Chem-Board Tote Boxes to speed the armament program in plants from coast to coast.

Chem-Board is made of corrugated fibre-board, chemically impregnated by Convoy's exclusive process. It is flint hard and rock strong. It is not weakened by moisture. It is impervious to machine oils. Convoy Tote Boxes cost and weigh 50% to 60% less than steel.

The lightness, toughness and economy of Chem-Board Tote Boxes are unmatched. Tell us the style you use . . . we'll send a free production sample from the next run for you to test. As a guide for present and future availability, our current production capacity is reserved for the unprecedented demands from old customers and "DO" orders. Orders rated DO-MRO are acceptable. Write today.

Standard and Custom-made
Nesting—Stacking—Vertical
CHEM-BOARD TOTE BOXES

CONVOY, INC.
P. O. Station B, Box 216-1
CANTON 6, OHIO

BREVITY—Identify by IEN - 3201 If you write the maker

PHILLIPS TRAIL-SKID*

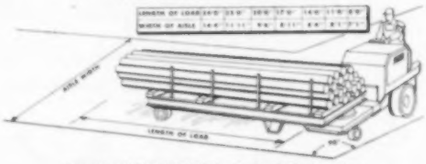
TRANSPORT AND MANEUVER *LONG LOADS* IN CONFINED SPACES

10,000 POUND CAPACITY

Towed by fork or platform lift truck, the Trail-Skid provides exceptional versatility at a cost substantially less than that of a conventional trailer. Although ideal for transporting palletized loads, it is outstanding for use in handling long length loads in confined spaces—such as turning corners at minimum width intersecting aisles. In operation, the lift truck engages the coupling mechanism mounted on the articulated turntable, lifts the skid legs free of the ground and moves the unit on its rear wheels. Depending on the load, the Trail-Skid can be used with or without stakes.

*Reg. U. S. Patent Office—Patent No. 2,439,232

Write for Bulletin E-41.



PERFORMANCE DATA: A Trail-Skid with a 24' load can make a 90° turn in aisles only 14'4" wide. See table above for other details.

MANUFACTURERS SINCE 1863 **PHILLIPS** MINE AND MILL SUPPLY COMPANY PITTSBURGH, PA.

MATERIALS HANDLING EQUIPMENT

2300 JANE STREET · PITTSBURGH 3, PA.

BREVITY—Identify by IEN - 3203 if you write the maker

If it LIFTS, HAULS, or HOLDS ANYTHING

with wire rope or chain —

IT NEEDS

LAUGHLIN

DROP FORGED FITTINGS

Safety "FIST-GRIP" Wire Rope Clips

Clevis Grab and Slip Hooks

"MISSING LINKS" Stronger than the chain itself

Turnbuckles — all sizes and types

Write for new Catalog No. 150, showing almost 1500 types and sizes of drop forged fittings.

LAUGHLIN

The Thomas Laughlin Co., 31 Fore St., Portland 6, Maine

BREVITY—Identify by IEN - 3204 if you write the maker

Will Plastics Work For You?

FAST...DEPENDABLE SOURCE OF SUPPLY

Name Plates • Dials
Scales • Diagrams, etc.

Specify Type to Suit Your Requirements

1. Laminated Thermoplastic — heat to 125° F, waterproof, grease and oil resistant, available in white, clear, and many colors.
2. Laminated Thermosetting plastic—heat to 275° F, water, grease and oil resistant, available in white and many colors.
3. Engraved Thermosetting plastic—heat to 275° F, water, grease and oil resistant, available in black, white and gray with color filled letters if desired.

Quantities: From one up.

Let us recommend and quote on the proper material to fill your specific requirements.

ALLEGHENY PLASTICS, INC.

391 CHESTNUT ROAD SEWICKLY, PA.

BREVITY—Identify by IEN - 3205 if you write the maker

TELECHRON

DEPARTMENT OF GENERAL ELECTRIC CO.

UPS PRODUCTION 30% ON THIS PRECISION WELDING JOB...with

RAYTHEON

WELDPOWER* UNITS

ACTUAL SIZE

Savings realized with Raytheon WELDPOWER* Units grow big as millions of these small nickel plated steel gears and shafts are welded annually. Replacing conventional welding methods, Raytheon WELDPOWER* does a better job on Telechron Electric Clocks . . . assemblies are clean, strong and precise to meet their unusually high standards of quality production . . . rejects are greatly reduced.

Raytheon Condenser WELDPOWER* Control Units are available in 3 sizes with appropriate Weldpower Heads. Send us your sample parts and production requirements, or write for complete information. Address Dept. 6470 IN-3

*Reg. U. S. Pat. Off.

RAYTHEON

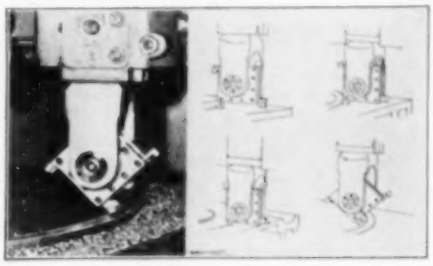
Available in Canada

RAYTHEON MANUFACTURING COMPANY
Equipment Sales Division: Waltham 54, Mass.
DISTRICT OFFICES: Boston • New York • Cleveland • Chicago • New Orleans • Los Angeles (Wilmington) • San Francisco • Seattle
INTERNATIONAL DIVISION: 19 RECTOR STREET, NEW YORK CITY

BREVITY—Identify by IEN - 3206 if you write the maker

LATHE TOOL . . Turret head for vertical boring and turning mills

Source: GIDDINGS & LEWIS MACHINE TOOL CO.
140-44 Doty St., Fond du Lac, Wis.



Minimizes tool changing

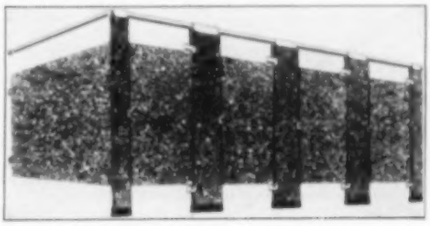
An operator can turn, undercut, bore and chamfer in one setup with this new eight-position tool holder. It mounts four tools at one time, provides positive positioning by means of two index pins. A wrench adjustment changes position through 360 deg. in index increments of 45 degrees. A center pin locks the complete assembly in rigid alignment and clamps it solidly.

Construction is in cast steel. The block will take tools measuring 1½ by 1½ inch. It will swing tools with a maximum projection of 7¼ in. on the radius. It measures 7¾ by 7¾ inches. Shank diameter ranges from 2¾ to 4 inches. Overall length is about 24½ inches.

BREVITY—Identify by IEN - 3207 if you write the maker

WASH ROOMS . . Toilet compartments made of reinforced hardboard sheet

Source: SANYMETAL PRODUCTS CO.
1699-1703 Urbana Rd., Dept. IEN, Cleveland 12, Ohio



Illustrated details in Bulletin 951

Non-metallic hardboard, cemented under pressure over solid insulation board, is employed in the partition panels, the pilasters and the doors of this new flush-type toilet compartment. Multiple units conform to dimensions of the modular system for dimensional coordination. Three colors simulate the appearance of metal. Each assembly is supplied with hardware and fittings ready for installation.

Panels for compartments with doors are 57 in. in depth and for compartments without doors measure 48 inches. Panels greater than 48 in. in depth are fabricated with a vertical flush joint on the hardboard surface. Pilasters are made in multiple width that comply with the modular system. Doors measure 22 and 24 in. in width.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 56

BREVITY—Identify by IEN - 3208 if you write the maker

Another Big Value by the Big Name in Fans

There are many spots where added ventilation or air movement would make for greater comfort and efficiency . . . and here's the volume blower for it. Heavy gauge steel housing. Torrington Airotor wheels. Quiet motor. 1/30 hp. 3¾" inlet. 4¾" x 3½" outlet. Only 8¾ lb. Conservatively rated at 260 CFM. Larger sizes, up to 26", also belt driven models.

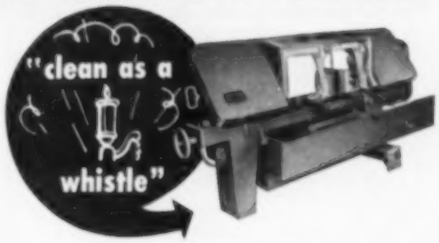
WRITE FOR COMPLETE CATALOG

STANDARD ELECTRIC MANUFACTURING CO., INC.

WEST BERLIN 12, NEW JERSEY, U.S.A.

BREVITY—Identify by IEN - 3209 if you write the maker

NOW...CUT METAL



That's right. There's no burr and kerf is held to a bare minimum when cutting with a Kalamazoo Metal Cutting Band Saw! What's more, accuracy of a few thousandths can be maintained in cutting bars, rounds, angles and odd shapes.

Remember, for continuous or intermittent production cutting at *lowest cost . . . a Kalamazoo can't be beat!* Three sizes are available, all can be had with casters for complete portability. Before you specify any metal cutting band saw . . . investigate what Kalamazoo offers!

MACHINE TOOL DIVISION

Kalamazoo TANK and SILO CO.

311 HARRISON ST., KALAMAZOO, MICHIGAN

See us at Booth 1019 — ASTE Convention

BREVITY—Identify by IEN - 3210 if you write the maker

Problem:

How to obtain controlled weld area and reduce costly fabrication of end to end welded circuit breaker parts

General Plate

Provided the solution with Steel edgebonded to TRUFLEX® thermostat metal — a Composite Metal

A leading manufacturer of circuit breakers had the problem of bonding a steel armature to a thermostat metal element. Individual butt welding of the small pieces was impractical due to the high cost to flash removal, and need of numerous inspections.

The problem was submitted to General Plate whose engineers quickly provided the solution by edge bonding steel to a Truflex thermostat metal ingot and then rolling the combination down to the proper size. As illustrated in the photograph, the result was a composite metal that was easily fabricated, gave the performance required and reduced costs considerably.

No matter what your problem, it will pay you to consult with General Plate. Their vast experience in cladding precious to base metals, or base to base metals can overcome your problems . . . often reduce costs. Have you a Composite Metal Problem? General Plate can solve it for you. Write for information.

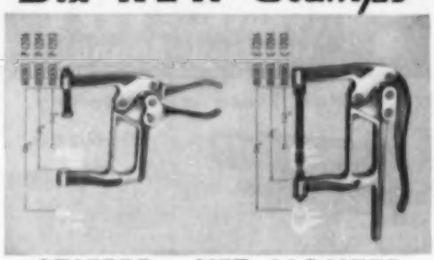
GENERAL PLATE

Division of Metals & Controls Corp.

73 Forest St., Attleboro, Mass.

BREVITY—Identify by IEN - 3211 if you write the maker

Six NEW *Clamps*



STIFFER—YET LIGHTER

REQUIRE LESS EFFORT TO CLAMP

Here is another forward step in KNU-Vise clamps for efficient, fast and secure clamping.

These six new clamps made of heat-treated steel forgings are stiffer, yet lighter, and require less hand effort to clamp. At the same time, a greater clamping force is obtained. In addition, the new hand-hold design of the C-Clamp (at right) provides a guard to protect the user's fingers while clamping. A second spindle, instead of the anvil, can be furnished for special applications.

Sales offices in principal cities. Teletype DE 49.

KNU-VISE PRODUCTS **LAPEER MFG. CO.**

3060 DAVISON ROAD • LAPEER, MICHIGAN

Western Division • 422 Magnolia Street, Glendale, California

BREVITY—Identify by IEN - 3212 if you write the maker

CHALLENGE SURFACE PLATE EQUIPMENT

PRECISIONED FOR YOUR PRECISION NEEDS!

ANGLE PLATES Provide a practical and versatile method for clamping and holding work. Challenge plates are made of high grade, fine-grained semi-steel—special heat treated and precision ground to an accuracy of .0005-inch. Made in 22 sizes, from 2½x6x12 inches up to and including 18x18x18 inches.

BOX PARALLELS: Special heat treated and precision ground to an accuracy of .0005-inch.

V-BLOCKS: Recommended for supporting shafts and other cylindrical work when drilling, checking, inspecting, etc. Made of fine-grained semi-steel castings. Special heat treated, precision ground. Ribbed sides.

RIGHT ANGLE IRONS: Made of fine grain special analysis semi-steel, specially treated. End and sides are precision ground both square and parallel.

STRAIGHT EDGES: Scientifically shaped and ribbed to retain accuracy. Made of special analysis semi-steel.

Write for complete information and prices. 684

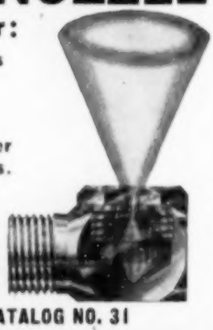
THE CHALLENGE MACHINERY CO.
GRAND HAVEN, MICHIGAN

BREVITY—Identify by IEN - 3213 if you write the maker

DELAVAN'S TYPE WR SPRAY NOZZLE

is ideal for:

Cooling Towers
Brine Sprays -
Degreasing
Bonderizing
and many other industrial uses.



There is a DELAVAN NOZZLE for any spraying requirement

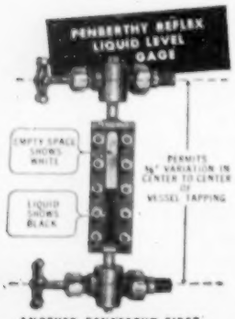
Write now for CATALOG NO. 31

DELAVAN MANUFACTURING CO.
3009 SIXTH AVENUE
DES MOINES 13, IOWA

BREVITY—Identify by IEN - 3214 if you write the maker

PENBERTHY "Floating Shank"

Saves Time and Money in Gage installation



ANOTHER PENBERTHY FIRST

A feature available only on Penberthy drop forged steel (and alloy) gage valves, the "floating shank" automatically compensates for as much as ¼" variation in the center-to-center distance of the vessel tapping. This saves time and cuts the cost of gage installation . . . eliminates stresses often induced during mounting. Penberthy "floating shank" is available at slight additional cost. It will pay you well to specify "floating shank" on your next gage order.

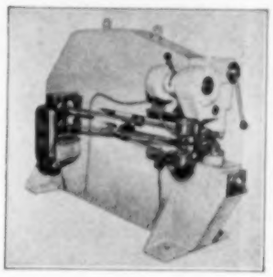
Ask for Catalog 35

PENBERTHY INJECTOR COMPANY
DIVISION OF THE BUFFALO-ECLIPSE CORPORATION
Established 1886 DETROIT 2, MICHIGAN Canadian Plant, Windsor, Ont.

BREVITY—Identify by IEN - 3215 if you write the maker

SHEARING . . Motor driven machine reciprocates cutter bit at high speed

Source: AMERICAN PULLMAX CO.
2453-57 N. Sheffield Ave., Chicago 14, Ill.



Feed is valve controlled

Power feed is now available on Models P-5 and D-3 shearing machines to aid in cutting and working steel plates measuring to 11/32 in. in thickness. The feed mounts on the side of the standard machine. It includes a motor drive mounted near the rear with two rotating shafts extending to the front to terminate in pressure rolls operated by pneumatic cylinders. The rolls pull the work through the machine as the high-speed reciprocating action in the upper head proceeds. The Model D-3 machine provides a 48-in. throat for work clearance. Controls are located at the operator's position in front of the machine, to the right as the machine is shown.

BREVITY—Identify by IEN - 3216 if you write the maker

PIPE . . Rigid extruded plastic to handle chemicals, oils, gasoline

Source: MUNRAY PRODUCTS INC.
12398-402 Crossburn Ave., Cleveland 11, Ohio

Originated in Germany

Polydur 162 is a new rigid extruded plastic pipe made of non-plasticized polyvinyl chloride. It is available in sizes to 2 in. for service at temperatures below 170 deg. F. The pipe can be machined, welded, threaded, and bent upon heating it to 250 deg. F. Plain and flanged ends are available in standard pipe lengths of 10 and 25 feet. Typical examples are illustrated.

The pipe remains serviceable at sub-zero temperatures. It does not become brittle. It will not deteriorate with age. It is a good dielectric. Tensile strength of the material is about 6,000 lb. per square inch. Elongation is 30 to 80 per cent in 2 inches. Elbows, tees, couplings, bushings of molded plastic are also available in the line.

IEN - 3217

Best statement on the subject, "My Happiest Experience with Used Equipment" wins $100 each month between now and October 1952 from First Machinery Corporation. A grand prize of $300 will be paid for the best statement in the series. You can enter if you are connected with the chemical and allied industries.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3218 if you write the maker

True in 1899...True today... You Get BETTER MARKING with Pannier "Master Markers"

Famous in the steel industry for their durability and "good impressions", these Pannier "Master Markers" are *still* your best bet for efficient and clear-cut marking of steel and steel products. Write for full information today.

Export Division: Bessemer Bldg., Pittsburgh 22, Pa.

THE PANNIER CORPORATION
101 Pannier Building
Pittsburgh 12, Pa.

BREVITY—Identify by IEN - 3219 if you write the maker

SLASH FASTENING COSTS

on LIGHT SHEET METAL ASSEMBLIES!

WASHER TYPE **PALNUT** TRADE MARK **LOCK NUTS**

Handle ONE part instead of TWO or THREE

Low-cost, one-piece Washer Type PALNUT Lock-nuts do the job of an ordinary nut, lockwasher and plain washer combined. You save parts and handling operations—get speedy, assembly with hand or power drivers. PALNUT double-locking spring action holds tight under vibration. Built-in washer spans holes and slots. Wide range of standard sizes. Send details of assembly for free samples and literature.

The PALNUT Co., 59 Cordier St., Irvington 11, N. J.
In Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ontario

PALNUT TRADE MARK **LOCK NUTS**
for quick, secure fastening at low cost

BREVITY—Identify by IEN - 3220 if you write the maker

New -- FROM SKF!

The HESS-BRIGHT Series "SY" Unit Pillow Block!

Here are the design features:

- DuPont Fairprene Red Seal retains lubricant. Wiping action of seal against inner ring is practically frictionless.
- Rotating Flingers exclude dirt.
- Set-screws for ease of installation
- Spherical outer ring compensates for initial misalignment
- Alemite fitting for re-lubrication.
- Interchangeability with existing installations made possible by bolt hole spacing and center height features.
- Shaft diameters—1-3/16" to 2-15/16"

Contact your SKF Distributor, or write, SKF INDUSTRIES, INC., Philadelphia 32, Pa., for complete details. 7222-C

SKF BALL AND ROLLER BEARINGS **IN EVERY INDUSTRY,** SKF Puts The Right Bearing in The Right Place

BREVITY—Identify by IEN - 3221 if you write the maker

From shop hoist to truck hoist . . . *in seconds!*

NEW... BOOM EXTENSION ADDS 25% LOAD TRAVEL

UNIT "Utility" HOIST gives greater load travel plus three lifting points with capacities ranging from 1000 to 2000 lbs.

Hydraulically operated for shop, truck or machine, the Unit Hoist makes quick work of special handling operations. Setting pipe and water hydrants, working in manholes, reaching over obstructions are easy with the new 12" Boom Extension and optional Sheave Attachment.

REDUCE material handling time. Unit gives you perfect load control plus portability. Portable floor frame permits moving to any job in the shop. Hoist when transferred to any truck equipped with well swings 360° freely and locks in traveling position. *Write for Hoist Bulletin U-2.*

PIN LOCKS HOIST IN SAFE WORKING POSITION

Floor Frame Model

THE BEST WHEN HANDLING: Drums, Motors, Boxes & Crates, Transmissions, Pipe, Tires, Farm Machinery, Fixtures, Hydrants

UNIT Manufacturers of hydraulic cylinders for original equipment

UNIT MANUFACTURING CO.
1229 HARMON PLACE • MINNEAPOLIS 3, MINN.

BREVITY—Identify by IEN - 3222 If you write the maker

SELF -CONTAINED -CONTROLLED -SUFFICIENT -RELIANT

Stacon Temperature Regulator*

The patented Farris Stacon Temperature Regulator is easily the most independent regulator available today. It's unique. It stands alone. It's trustworthy. It needs no watching. It's perfect for the man who wants no cause for worry . . . who wants to relax in the sure knowledge that his temperatures are constant.

Here's why Stacon stands alone in the field. It has no packing glands to leak or bind . . . the stem moves freely. The liquid in the bulb flashes to vapor in the power bellows, assuring hairtrigger response to move the disc. It operates with unbelievable accuracy—to within plus or minus 1 degree—and it operates with that accuracy under *all* conditions. Stacon provides air-operated accuracy at low, self-operated cost.

Get the details on the one truly outstanding temperature regulator—Stacon. Send for Bulletin 50-1000 to get all the details.

*Patented and Patents Pending

Farris Stacon Corporation
432 CONNERCE AVE., PALISADES PARK, N. J.

BREVITY—Identify by IEN - 3223 If you write the maker

ADJUSTABLE COMPARTMENT DRAWER

— IMMEDIATE SHIPMENT —

Write for complete catalog on Materials Handling Products, Shop Boxes and Shop Equipment.

ALL PRICES F.O.B. FACTORY

Product Number	Width	Length	Height	Price Green
95BHL	5½"	11¾"	4⅛"	$1.20
96BHL	5½"	17¾"	4⅛"	$1.38
97BHL	8¼"	11¾"	4⅛"	$1.31
98BHL	8¼"	17¾"	4⅛"	$1.49

PHONE • WIRE • WRITE
BAldwin 9-1805

BAY METAL PRODUCTS
3001 N. 16th Street • Philadelphia 32, Pa.

BREVITY—Identify by IEN - 3224 If you write the maker

WANTED!

A BUYER FOR A

FERRACUTE NO. 3 SUPER-SPEED PRESS

Purchased New 1946 from Factory. Never Used.

Press No. 21824 complete with speed rolls, lifters, variable speed transmission, variable speed General Electric 10 HP, 3-phase, 60-cycle Motor No. BS6599, also complete with guards for all belt drives. This press has a capacity of from 600 to 900 strokes per minute.

SPECIFICATIONS

Rated capacity in tons	30
Maximum width stock cut off	11"
Maximum length of blank	6"
Maximum width stock blanking	9"
Size of Die Bed	10¼" x 19¼"
Shut Height	4¼"
Stroke, standard adjustable	0-2"
Diameter Shaft in Bearings	3¾"
Flywheel	4" x 30"
Drive Pulley	Reeves 5000 Unit Belt Drive
Motor	10 HP
Floor Space (Approx.)	5' x 5'
Shipping Weight	10,350 lbs.

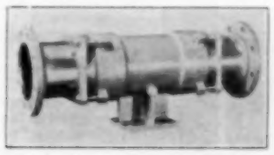
Price $10,000, F.O.B. San Francisco. A Saving of Over $3000.

CONTACT
MR. DUTTON
532 Natoma Street San Francisco 3, Calif.
Phone: UNderhill 1-6028

BREVITY—Identify by IEN - 3225 If you write the maker

PIPE FITTING . . Expansion joint, single and double end, 3 to 20 inches

Source: ROYALTON CO.
171 Eagle St., Gasport, N. Y.



Specifications in Bulletin 251

Pressure ratings are standard at 150 and 300 lb. for this new sleeve-type expansion joint. It is made in doube-end construction, as shown in the illustration, and also in a single-end design. Expansion movement is maximum at 4 in. at each sliding connection in standard construction, 8 and 12 in. to specification.

The outer steel sleeve carries a welded stuffing box and is machined on its inside surface. The inner sleeve also is made of steel and carries a threaded non-ferrous guide ring at its inner end for sliding suport. The steel packing gland is adjusted against the packing rings by turning nuts on non-corrosive studs secured in lugs welded to stationary member.

BREVITY—Identify by IEN - 3226 If you write the maker

CLEANING . . Non-flammable liquid for plant and equipment application

Source: KELITE PRODUCTS INC.
3403 W. Touhy Ave., Chicago 45, Ill.

Penetrates to clean

No. 28 is a new non-flammable, non-toxic liquid supplied in 5-gal. pails and in 15 and 55-gal. drums. Spray application removes heavy soil deposits, grease, stains from equipment in service, from lighting fixtures and from storage bins. It will not corrode metal, is safe to use on good paint. It leaves a film-free surface.

BREVITY—Identify by IEN - 3227 If you write the maker

TESTING . . Bridge type instrument to check three-cell storage batteries

Source: McCOLPIN-CHRISTIE CORP.
67th & Crenshaw Blvd., Los Angeles 43, Calif.

No hydrometer needed

New design of the Battery-Scope previously described IEN-9068-50 balances three cells in a storage battery against each other in a bridge circuit. Degree of unbalance is registered on a meter in one reading and in one operation. The battery is under substantially open-circuit condition so it is possible to test one that is completely discharged. Condition and state of charge can be read on a second scale. One of two test units also will check battery cables, starter switches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . Descriptions Ratings See Page 1

BREVITY—Identify by IEN - 3228 If you write the maker

At last!

A blow gun that can take it!

You won't have to baby this gun. It was designed to stand up under hard steady use. And then to prove it to ourselves we tested it by dropping it 10 stories . . . it still worked perfectly. That's durability. Combine this with its handy hang up hook, countersunk nose, and shielded operating button and you have a blow gun that will give you years of satisfactory service.

Schrader catalog gives full information on this gun as well as on just about everything that has to do with the use of air around the shop. Send for this catalog today.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
458 Vanderbilt Ave., Dept. D-36, Brooklyn 17, N. Y.

BREVITY—Identify by IEN - 3229 If you write the maker

Proper annealing assured by exact timing

● Because the heat treatment of castings requires accurate timing, this Eastern producer installed a Cyclone Flat Wire Belt to carry them through the annealing operation. The regulated speed of the belt (by use of sprocket drive)—and its large open areas—allow the maximum amount of heat to reach all parts of the castings for exactly the right period of time. Just recently the original belt was replaced after several years' operation . . . definite proof that Cyclone belts give long service under rugged conditions.

Cyclone Conveyor Belts are available in three types—Flat Wire, Chain Link and Flex-Grid. For information and advice on their installation get in touch with our nearest sales office and write Dept. C-32 for our catalog #4.

U·S·S CYCLONE
METAL CONVEYOR BELTS

CYCLONE FENCE
AMERICAN STEEL & WIRE DIVISION, UNITED STATES STEEL COMPANY
WAUKEGAN, ILLINOIS

USS

UNITED STATES STEEL

BREVITY—Identify by IEN - 3230 If you write the maker

DON'T LOSE VALUABLE DUST!

Buell's wide experience in the recovery of Valuable Dust can help you boost your plant's efficiency now—when peak efficiency is really needed!

To learn how a Valuable Dust Recovery System can be designed to suit your plant's special requirements, write today for full information on the *3 basic systems* of efficient dust recovery and dust collection. Ask for the new, illustrated Buell 'Dust Recovery' bulletin. Buell Engineering Co., Dept. 22-C, 70 Pine Street, New York 5, New York.

buell

Engineered Efficiency in **Dust Collection**

BREVITY—Identify by IEN - 3231 If you write the maker

STANDARDIZE ON STANDARD **HALLOWELL** CARRY-TOOL

use it anywhere

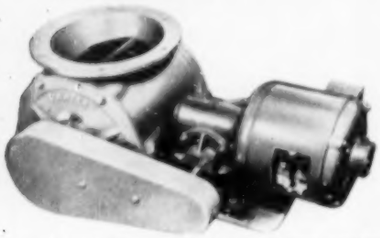
It's the handiest, most convenient carrier in the shop. Use it on [illegible] of machines, in the toolroom. Use it for inspection, stockroom, maintenance, and mounting small tools. Roller bearing drawers with padlock attachments are standard equipment. Write for descriptive literature. STANDARD PRESSED STEEL CO., Jenkintown 14, Pennsylvania.

HALLOWELL SHOP EQUIPMENT DIVISION

sps
JENKINTOWN PENNSYLVANIA

BREVITY—Identify by IEN - 3232 if you write the maker

PRATER ROTARY AIRLOCK FEEDER



FEEDS powdered and granular products into conveying line—quickly and accurately!
STOPS air leakage at the discharge of dust collectors or other pneumatic equipment!
PRE-DETERMINES rate of feeding material into mixers, blenders, hoppers, etc.
RECOMMENDED in the processing of: Ball Clay, China Clay, Diatomaceous Earth, Kaolin, Grains and Feeds, Graphite, Limestone, Whey Powder, Calcium Carbonate, Sulphur, Fullers Earth, Ochre, Volcanic Ash, Bronze Powder, Bauxite, Carbon Black, Salt, Barium Carbonate, Mazl, Sugar, Cocoa, Gypsum, Silica, Manganese Sulphate, Phenolic Molding Compound.

Send for new illustrated bulletin

PRATER PRATER PULVERIZER COMPANY
1536 So. 55th Court • Chicago 50, Ill.

BREVITY—Identify by IEN - 3233 if you write the maker

Yes! IT'S EASY TO INSTALL

RING *Automatic* SHOT CONTROL

Produces GREATER DENSITY . . . BETTER SURFACE . . .

on ZINC and ALUMINUM DIE CASTINGS

Regulates Injection Stroke in 2 stages from 1" to full stroke.

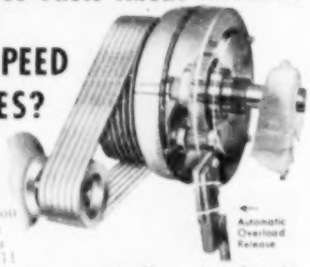
Metal flows slowly during 1st stage of injection stroke . . . full pressure applied at 2nd or final stage of stroke. Turbulence and trapped air in die cavity are minimized . . . better castings, fewer rejects, result. Only one moving part. Easily adjusted to all dies.

RING VALVE CO., Inc.
CLAWSON • MICH.
Telephone Lincoln 2-3387

LATEST TECHNICAL BULLETIN FREE ON REQUEST

BREVITY—Identify by IEN - 3234 if you write the maker

Know These Facts About SAVINGS on SLOW-SPEED DRIVES?



1. Know that you can select a drive to give you any speed from 11 to 154 r.p.m. direct from distributors' stocks saving design and engineering costs?
2. Know that there is a slow-speed drive available that costs very little initially and almost nothing to maintain?
3. Know that there is a standard speed reduction unit available that will give you higher production, less down-time and positive protection against overload damage?
4. Want to know more about it?

Get the story on American Speed Reduction Drives in a hurry—clip and mail the coupon below to:

THE AMERICAN PULLEY COMPANY
4240 Wissahickon Ave., Philadelphia 29, Penna.
Gentlemen:
I have a slow-speed problem—these facts I want RIGHT AWAY—
Please rush your bulletin on American Speed Reducers to:
NAME
ADDRESS
CITY ZONE STATE

BREVITY—Identify by IEN - 3235 if you write the maker

DRYING . . Centrifugal machine recovers solids from liquid feed

Source: NICHOLS ENGINEERING & RESEARCH CORP.
70 Pine St., Room 3100, New York 5, N. Y.

Lists at $3,800

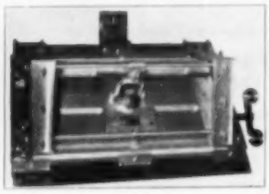
Type TS-Minor is a new unit in the Nerco-Niro line of centrifugal spray-drying machines designed particularly for laboratory use and for small scale production. Liquids containing solids are introduced into an air-driven centrifugal head inside the top of the drying chamber. Fluid and solids pass through this head which is operating at 50,000 rpm. to atomize the fluid. At the same time heated air is introduced into the chamber and is drawn out by a motor-driven fan through a cyclone separator. Solids collect in the form of fine powder in a removable glass container at the bottom of this separator. Air and moisture are delivered to exhaust.

The equipment measures approximately 6½ by 3 by 6 ft. in overall dimensions. Construction is primarily in stainless steel. The removable cover at the top of the drying chamber is lifted by air pressure for quick access to the interior to inspect or clean it. Controls are centered at a panel.

BREVITY—Identify by IEN - 3236 if you write the maker

TESTING . . Vibrating stand for instruments weighing to 50 pounds

Source: VIBRATION SPECIALTY CO.
1534-38 Vine St., Philadelphia 2, Pa.



To simulate service

New size has been added with work capacity to 50 lb. to the 20-lb. vibrating stand previously described IEN-11870-51. The new unit provides variable frequency between 500 and 3,000 cycles per minute. It also can be set for amplitude between 0.016 to 0.06 in. by turning an eccentric bushing. Drive is by a ¾-hp. adjustable-speed motor for operation on 110-volt 60-cycle ac. or on 220-volt ac. when specified.

Two sliding plates are mounted one upon the other on the inclined base. They are connected by an eccentric to the drive in the base so one operates horizontally and the other at right angles to it on the incline. Test equipment is secured to the top or vertical face of the 12 by 24-in. triangular table mounted on the top plate.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Chrysler Scraps 9 Million Pounds

BREVITY—Identify by IEN - 3237 if you write the maker

C-D-F MAKES IT...

The Grommet that Springs out and HOLDS TIGHT!

• The aircraft industry needs thousands of grommets for wires and cables passed through bulkheads. C-D-F offers this unique answer:

Fine weave canvas C-D-F Dilecto rolled tubing is cut into rings. Each ring is grooved and beveled on its outer diameter, then slit diagonally.

Result: Plastic grommets that are easily compressed and inserted by hand. The built-in tension of the tough Dilecto ring makes it spring outward, tight against the edge of the hole—cushioning . . . insulating . . . saving assembly time!

DILECTO is mechanically and dielectrically strong. Resistant to high heat, hot oil, excessive humidity. C-D-F sells it in sheets, tubes, rods in a wide range of grades . . . also handles complete fabrication on high speed machines. Write now for sample grommet and Dilecto catalog!

Continental-Diamond Fibre Company
NEWARK 21, DELAWARE

BREVITY—Identify by IEN - 3238 if you write the maker

CANNON PLUGS *for storage batteries*

Cannon Battery Connectors are used for starting aircraft engines, stationary power units, pumping engines, welding equipment, and numerous applications where circuits carrying high amperage and relatively low voltage require easy or frequent disconnect for efficiency.

The plugs are made with many variations in material, shell and contact design, with and without mechanical assists for making and breaking contact. Some have auxiliary contacts for signaling purposes, or solenoid contact of the high amperage circuits to prevent arcing. All 25-odd types are of highest quality.

New Battery Connector Bulletin GB-4 available on request

CANNON ELECTRIC
Since 1915
CANNON ELECTRIC COMPANY
LOS ANGELES 13, CALIFORNIA

Factories in Los Angeles, Toronto, New Haven, Great Lakes Division, Benton Harbor, Mich. Representatives in principal cities. Address inquiries to Cannon Electric Co., Dept. C-112, P. O. Box 75, Lincoln Heights Station, Los Angeles 31, Calif.

BREVITY—Identify by IEN - 3239 if you write the maker

LIKE AN **ATOM-IC** EXPLOSION

Just 1/32" (pinhole size) faucet leak

MUSHROOMS into ATOMIC WASTE

of approximately 95,000 gallons of water yearly—costing:

$24.14

@ $1.90 per M cubic feet

If a hot water faucet, then actual **FUEL WASTED** heating 95,000 gallons costs approximately:
$86.01 if coal (9879 lbs.)
$91.08 if oil (792 gals.)
$84.41 if gas (84,411 cu. ft.)
Above figures authenticated by Hackensack Water Co. and American Gas Association.

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with "SEXAUER" "Easy-Tites" that outwear ordinary faucet washers 6-to-1. Thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.
"EASY-TITE" Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300°F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in modern day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.

THE NEW "SEXAUER" CATALOG,
Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. *Send for your copy today!*

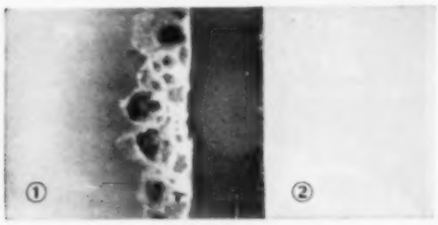
Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

A postcard will bring him and your NEW Catalog promptly.
J. A. SEXAUER MFG. CO., INC., Dept. K-32.
2360-65 Third Avenue, New York 51.

as advertised in **THE SATURDAY EVENING POST**

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

BREVITY—Identify by IEN - 3241 If you write the maker



1000° TEST PROVES "Thermalite" BEST!

Protects HOT Metal from Rust, Weather, Chemicals

Unretouched photo shows how: ① Regular heat-resisting aluminum paint discolors, blisters, flakes and burns off top half of panel when 1000° was applied directly to the surface.

② New Thermalite, with remarkable silicone ingredient, is unaffected, stays silver-bright, resists rust, weather, chemical fumes, salt spray. Brush or spray, indoors or out, on boilers, exhaust stacks, kilns, furnaces, melting pots, baking ovens. For full information on Thermalite, hottest maintenance paint on the market, write us today!

FREE! Send for your copy of the "Industrial Paint Index" —a quick, convenient reference chart for a multitude of maintenance paint applications!

THE TROPICAL PAINT & OIL CO. — *SINCE 1883*
1126-1300 W. 70th St. • Cleveland 2, Ohio

BREVITY—Identify by IEN - 3242 If you write the maker

Clebar

the stop watch of *split second accuracy*

Decimal Timer for Time Study, minute divided into hundredths, side slide starts and stops hands, fly-back from crown, 7 jewels, non-magnetic, 30 minute register. SNAP-BACK ACTION.

There is a Clebar stop watch for every precision timing purpose. Write for new FREE catalog which illustrates more than a score of models.

CLEBAR WATCH AGENCY
521 FIFTH AVENUE, NEW YORK 17

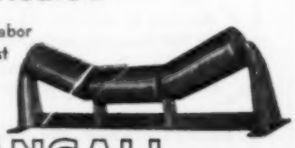
BREVITY—Identify by IEN - 3243 If you write the maker

Not many of them left since Transall took over

Transall Belt Conveyor Idlers

Pre-Lubricated

No Lubrication Labor
No Lubricant Cost



TRANSALL INC.

Manufacturers of a complete line of Belt Conveyor Equipment
117 North 11th St. Birmingham 4, Ala.

BREVITY—Identify by IEN - 3244 If you write the maker

ENGINE . . Single cylinder unit, vertical shaft, 1½ to 2½ horsepower

Source: CONTINENTAL MOTORS CORP.
12802 Kercheval Ave., Detroit 14, Mich.

For rotary lawnmowers

Positive lubrication for connecting rod and cylinder wall, rotating screen to keep foreign matter from the cooling circuit, metal slinger to keep the shaft clear where it issues from the base, oil-level dipstick in the base, ball-check breather, feature new construction of the company's vertical-shaft gasoline engine. Bearings in the base support the shaft.

BREVITY—Identify by IEN - 3245 If you write the maker

PRINTING . . Stencil type machine is hand operated for tags and labels

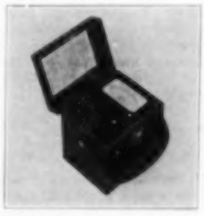
Source: WEBER ADDRESSING MACHINE CO.
202 W. Central Road, Mount Prospect, Ill.

Model KC is a new unit in the company's Tag-O-Graph line. It takes a roll of plain gummed or ungummed label stock, prints desired information as set up on a stencil. It cuts the labels off for individual delivery to a receiving rack. The machine can be adjusted to deliver labels measuring ⅞ by 2 in. to 3¼ by 6 in. to 100 per minute.

BREVITY—Identify by IEN - 3246 If you write the maker

TESTING . . Precision ohmmeter, to 100,000 ohms, dry cell operated

Source: ASSOCIATED RESEARCH INC.
3762 W. Belmont Ave., Chicago 18, Ill.



Hand stepped scales

Compensation is provided for change in internal resistance of the operating batteries and for lead and clip resistance in this new precision ohmmeter. Readings are accurate to ½ per cent at center scale. A built-in standard resistor checks calibration. Assembly is in a housing that measures 7¼ by 6¼ by 7½ inches. Weight is 11¼ lb. with two standard No. 6 dry cells.

Model 244A provides four ranges maximum at 50 to 50,000 ohms. Model 246A is in four ranges maximum at 100 to 100,000 ohms.

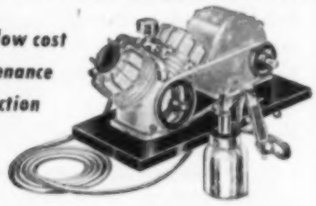
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3247 If you write the maker

Speedy Sprayer

PORTABLE PAINT SPRAYERS

for low cost plant maintenance and production



Dozens of handy, money-saving uses for these portable SPEEDY SPRAYERS! Operate anywhere in or out of your plant beyond the reach of air lines. Rugged, powerful, sprays all materials. Or use as source of compressed air, as vacuum pump or to inflate tires, etc. Absolutely clean, oil-free air assured by proved diaphragm principle employing no oily pistons. Order SPEEDY SPRAYER from your mill supply house or write direct for free catalog.

MODEL 444—½ H.P.
Heavy duty master twin. Delivers 4 cu. ft. air per minute at 40 lbs. Operates with ½ H.P. motor or gas engine. Complete with gun, 15 ft. air hose, less motor, $59.50

MODEL 890—¼ H.P.
2 cu. ft. air per minute at 30-40 lbs. pressure, less motor, $32.50

No. 775 Utility Paint Container for above models, holds 3 gals. paint, $19.95

W. R. BROWN CORP.
2671 Normandy Ave., Chicago 35, Ill.
Specialists in Portable Sprayers for over 20 years

BREVITY—Identify by IEN - 3248 If you write the maker

ENGRAVE

PANELS OF ANY DIMENSIONS IN YOUR OWN SHOP

with the Engravo graph

The only portable machine which reproduces 15 sizes from one master alphabet.

The only one with adjustable copy holding slides for multi-line engraving in one set-up.

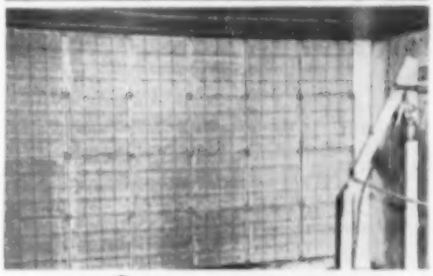
Self-centering holding vise for nameplates.

Send for Booklets
I-S—23 portable model • H—23 heavy duty model

NEW HERMES, Inc. 12-19 University Place, N.Y. 3
In Canada: 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

BREVITY—Identify by IEN - 3249 If you write the maker

HERE'S HOW...to control overspray in your booth



With RP Paint Arrestors, Your Booth Can Be Modified Like This . . . In Minutes!

This is a typical RP Paint Arrestor installation. Simple, economical to install . . . effective and efficient in operation. Check the RP way to modern overspray removal!

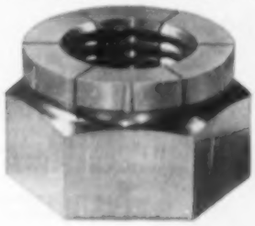
WRITE FOR FREE BOOKLET

Helpful, informative suggestion to solve your paint spray booth problems. Write today.

RP . . . PRODUCTS OF RESEARCH

RESEARCH PRODUCTS CORP. • Dept. IH, Madison 10, Wisconsin

BREVITY—Identify by IEN - 3250 If you write the maker



...THEY WON'T WORK LOOSE

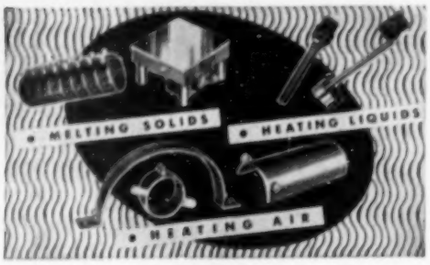
FLEXLOC Self-Locking Nuts stay locked, no matter how severe the vibration. They serve equally well as stop nuts, because they lock in any position on a threaded member. FLEXLOC Locknuts are one piece, all metal *period!* Write for samples. Just let us know what size you need. STANDARD PRESSED STEEL CO., JENKINTOWN 14, PENNSYLVANIA.

FLEXLOC LOCKNUT DIVISION

SPS JENKINTOWN PENNSYLVANIA

BREVITY—Identify by IEN - 3251 if you write the maker

IF YOUR PRODUCT CALLS FOR ELECTRIC HEAT . . .



. . . there's a *WATLOW HEATING UNIT* DESIGNED FOR YOU!

Wherever the job calls for dependable, efficient, clean controlled heat—there's a Watlow Heating Unit of the right size, shape and capacity to do the job faster and better.

Consult Us for Your Special Heating Problems • A blueprint or pencil sketch of your next tough job will bring our prompt recommendations and quotations, without obligation.

WRITE for FREE CATALOG — strip, band, cartridge, immersion units.

SPECIALISTS IN ELECTRIC HEATING UNITS

WATLOW
ELECTRIC MANUFACTURING COMPANY
1318 N. 23d St. St. Louis 6, Mo.

BREVITY—Identify by IEN - 3252 if you write the maker

INDIVIDUAL CUTTING OIL SANITATION FOR YOUR PLANT!

Here's how to prevent costly spoilage and eliminate foul odors: ask your DOLGE Service Man to take samples of your coolant for *free* bacteriological and chemical analysis. A complete laboratory report will show the correct coolant handling method for *your particular operation*.

Only if tests warrant it will a DOLGE STERIDOL GERMICIDE be recommended—a "tailor-made" preparation to meet *your exact needs*. Used as directed it will not irritate the skin or corrode metals. The cost? Far less than a cent per gallon of coolant!

Write for Booklet "Cutting Oil Sanitation"

STERIDOL

dependable
DOLGE
WESTPORT, CONNECTICUT

BREVITY—Identify by IEN - 3253 if you write the maker

wheelco instrumentality

SHUT-OFF INSURANCE

wheelco limitrol

For Improved Instrumentation—add the Limitrol to your control applications! Here's economical insurance to prevent temperatures from rising above the danger point during processing. The Wheelco "electronic link" provides instantaneous shut-off action for automatic safety.

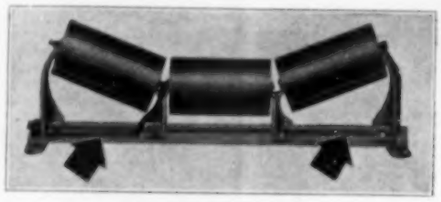
Get complete details—Write for LIMITROL BULLETIN LIM 1. Wheelco Instruments Company, 845 W. Harrison Street, Chicago 7, Illinois

wheelco *electronic controls*

BREVITY—Identify by IEN - 3254 if you write the maker

CONVEYING . . Belt idler assembly employs flexible grease tubing

Source: CHAIN BELT CO.
1675 W. Bruce St., Milwaukee 4, Wis.



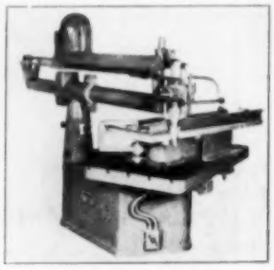
Arrows indicate tube lines

New design for the company's line of belt-conveyor idlers, designed for pressure-grease lubrication in the field, now includes reinforced flexible grease tubing in place of rigid pipe previously counted as standard. The flexible sections lie along the inside of the inverted angle or channel base or are threaded through the base where they are protected during shipment against breakage due to rough handling. The new design is now counted as standard by the company.

BREVITY—Identify by IEN - 3255 if you write the maker

WOODWORKING . . Radial router mounts cutter head on 6 to 12 ft. arm

Source: WOODWORKING PRECISION MACHY. & TOOL CO.
224 Fifth Ave., 3rd Floor, New York 1, N. Y.



Made in Switzerland

Kora trade names new Swiss machine in which a vertically-adjustable table positions work beneath the high-speed spindle assembled at the end of a radial arm. The spindle is driven by a 5-hp. motor for speed between 16,000 and 24,000 rpm. An operator can move the arm radially, pivot it and slide it in and out on its column support. The arm is held against turning in the support by hardened and ground steel rails. They ride between four adjustable rollers.

The table in the machine illustrated measures 4 by 2½ feet. It can be adjusted vertically through 8 inches. Work size is determined by the length of the arm.

IEN - 3256

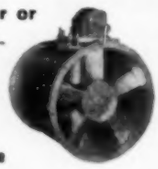
Everyone knows about the little "squeeze bottle" that you pinch to deliver its liquid content. It is made of flexible plastic, is unbreakable and very handy. But do you know that these same Plax bottles are available also in one and two-gallon sizes with screw caps? They are light in weight, need no protection against breakage, will not contaminate what you put into them and they are clean and easy to pour from.

All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN - 3257 if you write the maker

The Wingfoil Straight-Line Duct Fan is Unexcelled

For Supplying Fresh Air or Exhausting Air containing Paint Spray, Dirt, Steam, Explosive Vapors, etc., in Any Volume or Pressure



It may be used as a roof intake or exhaust, or it may be inserted in a run of duct, occupying no extra space. The motor is located outside the casing, driving the Wingfoil "non-overloading" fan by means of an enclosed V-belt. It is light, compact and easily handled, and may be mounted either horizontally or vertically.

Write for Bulletin F-10

L. J. Wing Mfg. Co. 160 Vreeland Mills Road Linden, New Jersey

BREVITY—Identify by IEN - 3258 if you write the maker

ENAMELSTRIP

STEEL · ALUMINUM · BRASS · PRE-FINISHED COLOR COIL

DOES THE JOB FROM A TO Z FOR Remington Rand INC

Remington Rand "Kompakt" and "Twinpakt" file fasteners by-pass costly time-consuming metal finishing processes by using Enamelstrip in continuous feed coils. Enamelstrip is coated BEFORE fabrication by an exclusive technique which achieves a finish that withstands the stresses of drawing bending and forming without cracking or peeling. Your company, too, can enjoy the advantages of Enamelstrip . . . any metal in any finish coated and slit to your specifications.

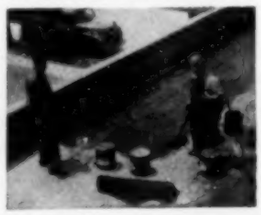
WRITE TODAY FOR DETAILED COLOR BULLETIN

National Sales Representatives:

THE COATED COIL CORPORATION
511 West 30th Street, New York 1 • LOngacre 5-3161

BREVITY—Identify by IEN - 3259 if you write the maker

let's take a look at your roof



POST-WINTER ROOF INSPECTION IMPORTANT *NOW!*

Trouble and dollars were saved the George A. Krug Baking Co., Westchester, N. Y., when Tremco Man Stretton suggested a February roof inspection to H. Hank, Plant Engineer.

They found much evidence of winter damage. Valleys between roof monitors and parapet had suffered from ice. A large depressed area held water inches deep, causing roofing sheeting to rot out. Many coping joints were defective.

A condition which could have led to serious damage to roof and building interior, and ultimately required extensive repairs was caught in time and quickly remedied.

Depressed areas were levelled with a fill mix. Coping joints were raked out and pointed. Monitors were treated with a rust inhibitor.

The work, by a local contractor, was done under the instruction of the trained Tremco Man.

It's a wise precaution to find out now what this last winter has done to your roof. Call in a Tremco Man. There is no obligation for his expert inspection and advice. Write The Tremco Manufacturing Company, Cleveland, Ohio and The Tremco Manufacturing Co., (Canada) Ltd., Toronto.

THE **TREMCO** MANUFACTURING CO.
CLEVELAND, OHIO
Products and Methods for Building Maintenance

BREVITY—Identify by IEN - 3260 if you write the maker

NEW Outstanding Split Cutters

Increases Life of Engraving and Router Cutters

Save Time—Save Money
Reduced Tooling Time
Cutter Life Increased 500%
Strength at Points Increased
Four Points Available with One Tool
Grinding to Thickness Eliminated
Less Skill Required to Sharpen

The first improvement in Engraving Machine and Router Cutters since their invention years ago.

PITTSBURGH STENCIL and TOOL COMPANY
REEDSDALE and SCOTLAND STREETS
PITTSBURGH 12, PA.

▼ BREVITY—Identify by IEN - 3261 if you write the maker ▼

Modern way to save money . . . Farquhar medium duty PACKAGE CONVEYOR

Cuts COSTS Boosts PROFITS

If you're looking for an easier, faster, *cheaper* way to move bags, bales, boxes, cartons and bundles up to 75 pounds, get this Farquhar Model 436 Package Conveyor on the job and watch your handling costs hit rock bottom!

The Farquhar Model 436 is especially designed for all types of portable or semi-permanent materials handling installations. Heavy, two-ply rubber covered belt is 12" wide, carries units up to 75 pounds at standard speed of 78 feet per minute. Belt is supplied with or without cleats. Standard center support provides great stability, may be attached to floor or hung from ceiling. Minimum length 14 ft., maximum 32 ft.

For information on this money-saving Farquhar Model 436 Conveyor — or other Farquhar Conveyors for *all* bulk and packaged materials handling—write to:

A. B. FARQUHAR COMPANY
Conveyor Div., Dept. M-32, 142 N. Duke St., York, Pa., or 618 W. Elm St., Chicago, Ill.

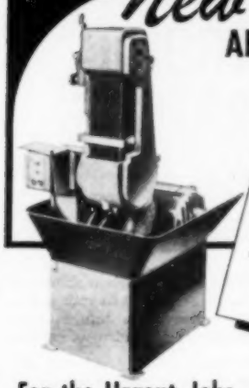
Farquhar CONVEYORS SAVE YOU MONEY

HARVESTERS, PROTECTIVE FARM EQUIPMENT, FOOD PROCESSING AND SPECIAL MACHINERY

▼ BREVITY—Identify by IEN - 3262 if you write the maker ▼

Large Area Grinding at Low Cost

New Vertical-Horizontal **ABRASIVE BELT Machine**



PORTER-CABLE Model 506 Wet-Dry COMPACT! RUGGED! Adaptable to grinding and polishing operations on medium size work 6" BELT over 12½" platen

For the Urgent Jobs, early delivery

Handles the jobs which previously required larger and more expensive machines in production lines, job shops, tool rooms, maintenance and repair departments. Only 56½" high in vertical position. Working area, 6" x 9". Frame, heavy reinforced weldment and cast iron.

Adjusts Vertically or Horizontally in one minute to right position for free-hand grinding of flat surfaces, deburring, squaring, chamfering, rounding, polishing. Applications include wood, metal, glass, plastics. Built-in coolant system for wet grinding. (Model illustrated.) Interchangeable V-belt pulleys make possible most efficient cutting speeds.

Get Your FREE Copy of "Case Histories"—a 32-page fact-packed booklet with 46 examples — more than 100 illustrations — showing how abrasive belt grinding ups output and slashes costs. Mail coupon *today*.

Porter-Cable Machine Co.
6108 N. Salina St., Syracuse 8, N. Y.

Please send me: ☐ Complete information on new Model 506 Abrasive Belt Grinder
☐ Free copy of "Case Histories"

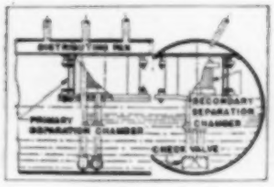
Name
Title
Firm
Address
City State

In Canada write: Strongridge Ltd., London, Ont.

▼ BREVITY—Identify by IEN - 3264 if you write the maker ▼

SEPARATING . . Vane type unit removes moisture from steam in vessel

Source: CENTRIFIX CORP.
3600 Payne Ave., Cleveland 14, Ohio



Two stage separation is provided by this new dry-scrubber purifier to remove moisture from steam, prior to delivery of the steam through the outlet connections. The unit applies singly or in multiple to deliver steam of 1 ppm. total solids.

Primary separation is by a rectangular shield surrounding the centrifugal separator. This shield permits vapor to pass, deflects splashing liquid and spray. Secondary separation is by up-flow or down-flow through the vane-type separator.

▼ BREVITY—Identify by IEN - 3265 if you write the maker ▼

WOODWORKING . . Circular saw blade for portable electric sawing machine

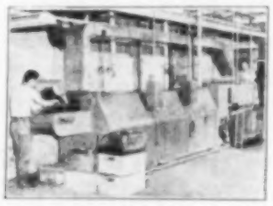
Source: HENRY DISSTON & SONS INC.
49 Tacony St., Philadelphia 35, Pa.

Sizes range to 12 in. in diameter for the new Bye Tooth circular saw blade. It has been named after Norman C. Bye, Director of Engineering for the company, because of his work to obtain the final combination of tooth, blade, gullet in the new design. The blade is available in various types of arbor hole for application on any standard portable saw.

▼ BREVITY—Identify by IEN - 3266 if you write the maker ▼

CLEANING . . Conveyor type machine washes, rinses, dries plastics, metals

Source: INDUSTRIAL WASHING MACHINE CORP.
287-91 Bernet St., Dept. ST, New Brunswick, N. J.



Each is built to order

Small parts such as Bakelite sockets for radios, or small metal stampings, are distributed over the mesh conveyor at the load end of this new machine. The conveyor carries the work through a washing operation, then through two rinse sprays and finally through a hot-air dryer for delivery into boxes at the opposite end. The machine measures 21 by 5 by 4½ ft. overall. The conveyor belt is 12 in. in width and operates at 3 fpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

▼ BREVITY—Identify by IEN - 3267 if you write the maker ▼

Let this all-purpose

DEWALT

save money in Your plant

Here is the ideal, all-purpose machine you need to cut costs and step up production in your plant. DeWalt is *many* machines in one! It dadoes, routs, shapes, tenons, grinds, sands, etc.! It's fast, accurate, safe, dependable. It takes up little floor space—and streamlines all your cutting operations. Write for catalog. DeWalt, Inc., Dept. IE-3, Fountain Ave., Lancaster, Penna.

DEWALT INC.
A subsidiary of American Machine and Foundry Co.

▼ BREVITY—Identify by IEN - 3268 if you write the maker ▼

FREE! NEW CATALOG ON Quincy COMPRESSORS

DESIGNED TO HELP YOU SELECT THE RIGHT COMPRESSOR FOR YOUR JOBS!

Look before you buy! This brand-new, 12-page catalog of Quincy Compressors is your guide to dependable compressed air supply. Contains illustrations and features of various types and sizes Quincy Compressors. Specifications for 35 Quincy models.

SEND TODAY! Write Quincy Compressor Co., Dept. H-23, Quincy, Illinois.

QUINCY COMPRESSOR CO., Quincy, Illinois
Branch Offices: New York • Philadelphia • Detroit • Chicago • Dallas • St. Louis • San Francisco

▼ BREVITY—Identify by IEN - 3269 if you write the maker ▼

SEND FOR IT TODAY

The WHAT-WHY-WHERE-WHEN and HOW OF LAMINATED PLASTICS!

If your business uses structural materials, decorative materials, or electrical insulating materials—you should know the fundamental facts about laminated plastics made with Bakelite Phenolic laminating varnishes.

To supply these facts, Bakelite Company offers you this 36-page illustrated booklet telling what these materials are, how they are made, and how they can be used to improve the performance, beauty, economy, and sales value of your products.

Case histories of the various types and grades of laminated plastics available for many fields of application are included in the guide book, along with test data on their physical, chemical, and electrical properties, and the methods employed in their fabrication and finishing.

A list of representative manufacturers using Bakelite Phenolic Resins for the production of outstanding laminated plastics for countless end uses is included. Fill out and mail the coupon for your free copy of this indispensable reference and data book today!

Dept. DM-14
Bakelite Company
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.
Please send me free copy of "Laminated Plastics Made with Bakelite Phenolic Varnishes."

Name *Title*
Company
Street
City *State*

BAKELITE
TRADE MARK
PHENOLIC LAMINATING PLASTICS

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

BREVITY—Identify by IEN - 3271 If you write the maker

RAILS AND TRACK ACCESSORIES

Buy Rails and Track Accessories from a reliable single source—to save time and money. L. B. Foster's large warehousing operations provide dependable delivery of all your trackage needs—new installations or replacements. We'll meet your exact requirements. All material is rigidly inspected before shipment and is backed by Foster's Guarantee.

Write for Rails & Track Accessories Catalog IE3

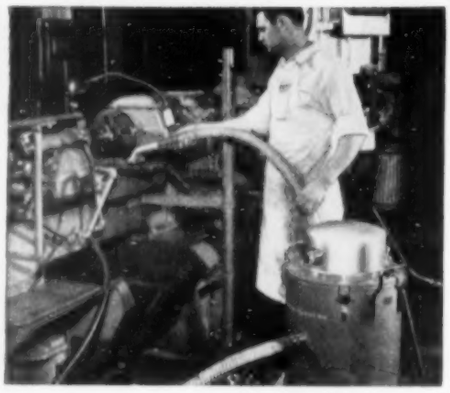
STEEL SHEET PILING • PIPE • WIRE ROPE

L.B. FOSTER CO.

PITTSBURGH 30, PA. NEW YORK 7, N.Y.
CHICAGO 4, ILL. HOUSTON 2, TEX.

BREVITY—Identify by IEN - 3272 If you write the maker

Economize on cleaning costs NOW



One worker with *one* G. E. heavy duty cleaner can clean *any* surface . . . pick up small scrap for salvage . . . clean high-up, out-of-reach areas quickly and safely. By using a simple attachment, he can clean *wet* surfaces . . . pick up mop water, toilet overflow, drinking fountain leakage, etc.

G. E. industrial cleaners were designed after thorough survey of industrial cleaning needs. That's why G. E. cleaners have so many time and money saving features.

For instance—nozzles are extra wide (12" and 18") to cover big areas quickly. Motors have extra power to pick up industrial scraps or fine dust with equal ease. Each unit converts quickly to powerful *blower* for collecting coarse litter into convenient piles for easier disposal. These and other features of G. E. cleaners help you get to the root of high cleaning costs—make each of your maintenance workers more productive. **Mail coupon for details.**

Industrial Cleaners

GENERAL ELECTRIC

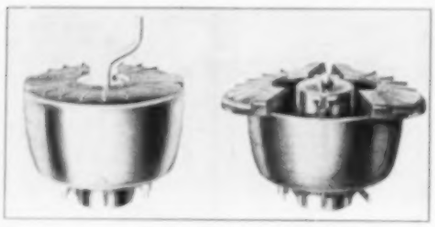
GENERAL ELECTRIC COMPANY, Dept. 22-3531
1285 Boston Ave., Bridgeport 2, Conn.
Without obligation, please send complete details on heavy-duty cleaning equipment.

NAME _____
FIRM _____
ADDRESS _____
CITY _____ STATE _____

BREVITY—Identify by IEN - 3274 If you write the maker

WASH ROOMS . . Soap dispenser mounts above Washfountain spray head

Source: BRADLEY WASHFOUNTAIN CO.
2219 W. Michigan St., Milwaukee 1, Wis.



Easy to fill and clean

Capacity is about six quarts for the company's new circular molded plastic soap dispenser. It is one-half that amount when one of the two identical halves is employed on installations that mount against a wall. Each part is fitted with a plastic lid and two valves for either liquid or granulated soap. Thus a complete circular unit will have four. Dimensions of the housing are about 12 by 9 inches.

BREVITY—Identify by IEN - 3275 If you write the maker

RECORD KEEPING . . Card file mounts card trays on enclosed conveyor

Source: DIEBOLD INC.
2 W. 45th St., 1st Floor, New York 19, N. Y.

Takes 34,000 3 by 5's

Steel housing in this new Model-7294 Elevator File mounts a closed-loop chain conveyor on which card-carrying trays are mounted. The conveyor is motor driven and pushbutton controlled to bring any tray into position from either direction. The housing measures 22¼ by 38¾ by 34¾ in. overall, 19 in. of filing space are provided in each tray.

The cabinet will take eight trays for 8 by 5-in. cards, nine trays for 6 by 4-in. cards and twelve trays for 5 by 3-in. cards. Maximum card width is 8 inches.

IEN - 3276

How much shrink is answered for the foundry man or engineer dealing in castings by a new set of shrink table sheets. They list decimal equivalents for all dimensions by 64ths to 12 inches compensated for material shrinkages in 32nds to ½ inch per foot. Page size of the sheets is 11 by 15 inches. Their use eliminates need for an assortment of shrink rules. All for $1 from Arrow Pattern & Engineering.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

BREVITY—Identify by IEN - 3277 If you write the maker

For Safety's Sake Use

DAYTON SAFETY LADDERS

Sizes 3 feet to 16 feet in height (measured from ground to platform) with standard rubber safety shoes at no extra cost.

Maintenance men everywhere rely on Dayton Safety Ladders for maximum safety and convenience. Daytons are constructed of tested airplane spruce and reinforced with rigid steel supports to give great strength and lightness of weight.

Handrails of steel guard the large roomy platform for added safety. Half of platform can be raised to form an extra step, when needed. These famous ladders can be set up instantly, are easy to carry and fold compactly for storing. Automatic locking feature insures safety while ladder is in use.

Write today for Bulletin No. 10

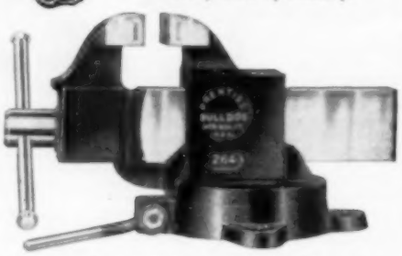
DAYTON SAFETY LADDER CO.
2339 GILBERT AVE. CINCINNATI, OHIO
In Canada—Safety Supply Company—Toronto

BREVITY—Identify by IEN - 3278 If you write the maker

PRENTISS

"BULL DOG" VISES

Backed by 80 years of time-proven acceptance by industry.



MACHINISTS — TOP SWIVEL JAW — COMBINATION PIPE
HINGE PIPE — WOODWORKERS' — UTILITY

Renewable steel jaws that cannot work loose, swivel base with a positive lock plus other features give you vises that will stand the most severe tests. Send for THE NEW PRENTISS CATALOGUE TODAY.

PRENTISS VISE DIVISION
OF THE CHARLES PARKER CO., MERIDEN, CONN., U. S. A.

BREVITY—Identify by IEN - 3279 If you write the maker

IMMEDIATE DELIVERY

on RCA high-frequency ELECTRONIC GENERATORS for soldering, brazing, heat-treating

Available Today . . . NOW. For immediate shipment from RCA, Camden, N. J., direct to your plant. High-frequency electronic generators in sizes of 15 and 75 KW for induction heating of metals.

Big, sturdy high-power units. These generators are heavy-duty "work horses," built to stand up under long, tough production schedules. Time-tested designs. One-unit construction for compact, easy, space-saving installation. Built and backed up by RCA . . . pioneer in high-frequency heating. Nationwide service available through RCA Service Company.

Do you need applicators, too? RCA has developed dozens of different applicators for electronic heating. Ask us about our proved designs . . chances are there is one already worked out to fit your needs.

Generator stock limited. Act NOW. Production of RCA electronic heating units is being stepped up to meet ever-increasing demand. But even so, the supply of completed units for immediate delivery is definitely limited. So if you need electronic heating equipment NOW . . . then NOW is the time to act.

Contact RCA at once. Get your order in fast. First come, first served. Do it NOW.

More Information? Mail Coupon TODAY

RCA Engineering Products Dept. 141C, Camden, N. J.
Without obligation, please air-mail me complete information on your RCA electronic heating equipment *available for immediate delivery*, for the application stated below:

To be used for _____
KW power required _____
Name _____ Title _____
Company _____
Address _____
City _____ State _____

RADIO CORPORATION of AMERICA
CAMDEN, N.J. INDUSTRIAL EQUIPMENT SECTION

▼ BREVITY—Identify by IEN - 3281 If you write the maker ▲▼

Johnson Flexible Seamless Metal HOSE

For
conveying under pressure or vacuum
Steam-Oil-Water-Gas-Refrigerants

Ask for Bulletin J-3

Deep convolutions provide for extreme flexibility.

Made of brass, bronze, carbon steel, stainless steel alloys.

Standard or special fittings available for hot or cold service.

JOHNSON METAL HOSE INC.
P. O. Box 952 Waterbury 20, Conn.

▼ BREVITY—Identify by IEN - 3282 If you write the maker ▲▼

HAND HYDRAULIC PUMP

Single and Double Designs

To 20,000 P.S.I.

Interchangeable Pistons ⅝-½-¾ inch

★

Integral Release Valve

★

Dual Pump Unit Reservoir 360 cu. in.

Pressure range is 5,000 to 20,000 P.S.I. Pipe connections ¼" N.P.T. Handle length is 18 inches. Weight is 8 to 18 pounds. Unit can be bolted or welded into position.

WILLIAM S. PINE
1637 E. 22nd St., Los Angeles 11, Calif.

▼ BREVITY—Identify by IEN - 3283 If you write the maker ▲▼

..SAVES OUTAGE TIME and MONEY

Use SUPER ADACHROME-CAST to gunite your stud tube water walls — fine-grained to penetrate the small apertures between studs — packs to a dense mass when shot. One user reports SUPER ADACHROME-CAST lasted twice as long and took but one-third the time to apply as compared with a plastic chrome ore installation.

Excellent for coating brickwork when free of slag.

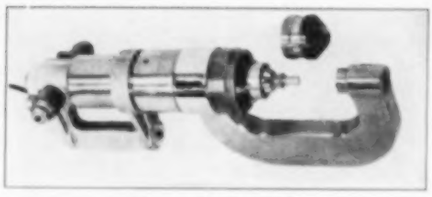
Yours, *FREE* for the asking . . . an *illustrated, detailed Bulletin* on *Super* ADACHROME-CAST.

BOTFIELD REFRACTORIES CO.
784 South Swanson Street, Philadelphia 47, Pa.
In Canada, Canadian Botfield Refractories Co., Ltd., 171 Eastern Avenue, Toronto

▼ BREVITY—Identify by IEN - 3284 If you write the maker ▲▼

PUNCHING . . Portable hydraulic head, to 12½ ton, also rivets, extrudes

Source: DANLY MACHINE SPECIALTIES INC.
2102 S. Laramie Ave., Chicago 50, Ill.



Takes the tool to the job

Light weight, 45 lb., combines with high capacity, 12½ ton at 5,000 lb., in this new portable head. It represents further development in the Danly-Mueller hydraulic equipment, previously described IEN-11087-51. The head connects by suitable hose lines to motor-driven pumping equipment that forms part of a complete assembly. The unit shown in the illustration is set up for hole punching. Its stripper is shown beside the punch in the illustration above.

▼ BREVITY—Identify by IEN - 3285 If you write the maker ▲▼

STATIC ELIMINATOR . . Liquid for textiles and surfaces of plastics

Source: MERIX CHEMICAL CO.
1019-23 E. 55th St., Chicago 15, Ill.

One gallon about $8.50

Anti-Static is a new liquid available in two formulas for application in textiles and on the surfaces of plastic and other materials where static charges can collect. The liquid is brushed, wiped or sprayed to remove any existing charge and prevent further accumulation.

▼ BREVITY—Identify by IEN - 3286 If you write the maker ▲▼

DRYING . . Portable hot air blower for washroom, laboratory, processing

Source: ELECTRIC-AIRE ENGINEERING CORP
207-11 W. Jackson Blvd., Chicago 6, Ill.

Hot air as needed

The blower head on this new portable drying unit is mounted on a counterbalanced shaft to permit positioning in a range between 36 and 50 in. above the floor line. Controls in the head permit setting the operation between a soft flow and high velocity of air as well as adjustment for temperature produced by the enclosed electric element. The heated air issues through a 2-ft. flexible hose that can be positioned universally. Construction includes a nozzle measuring 3⅝ in. in width and a universal electric motor to drive the blower.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 88

▼ BREVITY—Identify by IEN - 3287 If you write the maker ▲▼

Will You Have Enough GAS this Winter?

THIS OVEN DESIGNED FOR GAS . . BUT IT'S FIRED WITH OIL VAPOFIER

The S.O.S. Company, in Chicago, has insured production against losses due to seasonal gas curtailment by installing Vapofier on gas standby. Change-over to and from gas is made without loss of flame at the burners in a matter of seconds. The same piping, burners, automatic controls and safety devices are utilized.

Capacities from 70,000 to 4,000,000 B.T.U.'s per hour

Should your processing be annealing, galvanizing, heat treating, glass manufacturing, industrial drying, paint, core or bread baking, there's a Vapofier to fit your needs.

Do away with Gas shortages this winter. Send for FREE booklet "Make Your Own Gas with Vapofier."

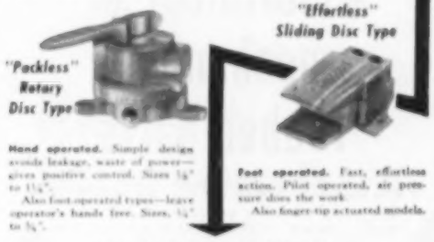
VAPOFIER CORP., 10326 S. Throop St., Chicago 43, Ill.

▼ BREVITY—Identify by IEN - 3288 If you write the maker ▲▼

Positive Air Control with HANNIFIN VALVES

for single or double-acting cylinders

Hannifin precision-built valves are *efficient* and *reliable*—and quickly *available!* For positive, accurate control of air-powered equipment, there is a Hannifin valve that will give long-time service in production operations.



Hand operated. Simple design avoids leakage, waste of power—gives positive control. Sizes ⅛" to 1½".
Also foot-operated types—leave operator's hands free. Sizes, ¼" to ¾".

Foot operated. Fast, effortless action. Pilot operated, air pressure does the work.
Also finger-tip actuated models.

Write for Bulletins 57, 240, 241

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Illinois

▼ BREVITY—Identify by IEN - 3289 If you write the maker ▲▼

DRAFT 40% FASTER with a Bruning Machine

Tests prove you draft as much as 40% faster with a Bruning machine that combines your five basic instruments . . . T-square, straightedge, triangle, protractor, and scales . . . into one precision unit.

There are no waste motions of picking up and laying down separate tools. That's why you not only draft faster but easier and more accurately with this drafter.

Write for free booklet A-1055 for full details on Touch Control, Equipoise, and other exclusive features. CHARLES BRUNING CO., INC., Department B 52 Teterboro, N. J.

BRUNING
Everything for the Engineer and Draftsman

▼ BREVITY—Identify by IEN - 3290 If you write the maker ▲▼

BREVITY—Identify by IEN - 3291 If you write the maker

world's largest assortment of mechanical rubber parts

SEE US BEFORE YOU DESIGN IT!

Save money! Check our huge assortment of standard moulds — chances are we have just the mould you need. Lowest possible prices—fast, efficient service!

Get our new 40 page catalog, today.

LAVELLE Rubber Company
1181 W. Hubbard, Chicago, Ill.
WRITE, WIRE, PHONE SPECIFICATIONS — TODAY!

BREVITY—Identify by IEN - 3292 If you write the maker

Relays BY GUARDIAN GUIDE THE WAY!

Aircraft landing lights, radar and communications systems usually employ Guardian Relays for split-second response, unfailing operation and a minimum of maintenance. On the ground, Guardian Relays guide motor car and rail traffic with a speed and accuracy far beyond the limitations of human eyes and hands. Guardian Relays are available with either open type or HERMETICALLY SEALED construction to withstand dust, gun blast heat, fog, fungi, salt air, stratosphere cold, even concussion and bursting shells. From simple circuits to the complexities of Time Delay—Timing—Counting—Multiple Credit—Add and Subtract or Sequence operations—Guardian can solve your control problem . . . FAST!

Series 345 D.C. Relay

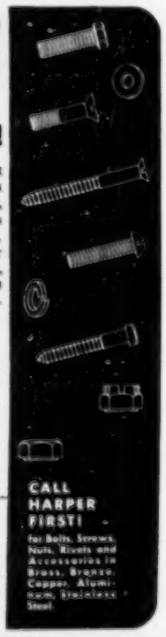
GUARDIAN ELECTRIC
1620-C W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

BREVITY—Identify by IEN - 3293 If you write the maker

HARPER

Specialist in *all* Non-Corrosive Fastenings!

Call Harper *first!* America's largest producer of non-ferrous and stainless steel fastenings—specializing in bolts, screws, nuts, rivets and accessories in brass, bronze, copper, aluminum, Monel, stainless steel—to solve your problems in corrosion, heat, abrasion, stress and appearance. Over 7,000 items stocked by warehouses and distributors from coast to coast.



FREE—*this 56-page Harper Price List and Stock Book.*

HARPER
EVERLASTING FASTENINGS

CALL HARPER FIRST! for Bolts, Screws, Nuts, Rivets and Accessories in Brass, Bronze, Copper, Aluminum, Stainless Steel.

The H. M. Harper Company
8211 Lehigh Ave.
Morton Grove, Ill.
Rush Harper Price List and Stock Book.
Name.....
Address.....
City.....State.....

BREVITY—Identify by IEN - 3294 If you write the maker

DRIVE . . Worm type reducer mounts on end of screw feed conveyor

Source: BOSTON GEAR WORKS
63 Hayward St., Quincy 71, Mass.

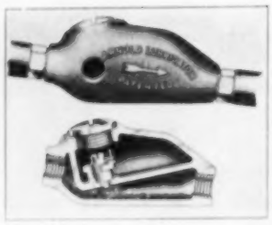
Detail specifications on request

Model C9-U52 is new housing design in the company's Reductor worm-and-gear speed reducer. It drives a 9-in. screw feed conveyor and mounts the conveyor trough as shown in the illustration. A separate sub-base provides for alignment. Special diameter output shafts can be specified. Four sizes are available with input speed between 300 and 1,800 rpm.

BREVITY—Identify by IEN - 3295 If you write the maker

LUBRICATING . . Air line oiler, adjustable feed, half pint capacity

Source: RUCKER CO.
4226-30 Hollis St., Oakland 3, Calif.



Arnold Lubricator No. 2 is a new unit to assemble in a pipe or hose line leading to an air-operated tool. It feeds oil into the air moving to the tool. Overall dimensions are 7 in. in length by 3½ in. in width and height. Weight is 32 ounces. Construction is in a light-weight alloy which, with the shoulder-free shape, offers no perceptible drag on an air line as the tool it is feeding is moved from one location to another.

Oil can be added while the line is under pressure. A window provides a sight reading to show oil remaining in housing.

IEN - 3296

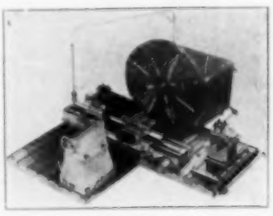
Electronic equipment is now doing duty as a quality inspector in strip mills and in canning plants. It is viewing both edges of continuous strip as the strip moves through the rolling operation. It indicates any width variation in a control room where immediate correction is made in the mill setting. It is saving as much as 4,000 ton of steel per year per installation.

In the canning factory it sends a tiny X-ray beam through filled and closed cans as they pass on a conveyor. The X-rays are absorbed in varying amount depending on the level of fill in each can. Partly filled ones are automatically diverted from the line. It will look at 1,200 cans per minute. The equipment is by General Electric.

BREVITY—Identify by IEN - 3297 If you write the maker

LATHE . . Unit sections assemble on bed plate for large work

Source: KURT ORBAN CO.
204 E. 43rd St., New York 17, N. Y.



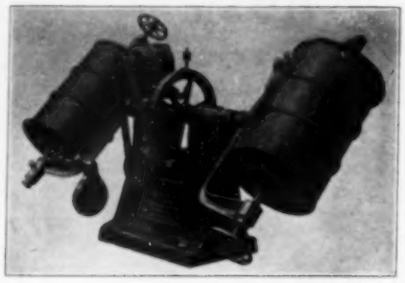
Made in Germany

T-Lathe designates a new assembly of unit sections of a lathe including a headstock, tailstock, motor-driven carriage equipped with tool slides and a hand-operated single-tool pedestal. All are for assembly on a base equipped with T-slots and a feed rack. The lathe is available in three ranges with center height over the base at 39½ and 44 inches. The faceplate is standard at 51, 69 and 88½ in. in diameter. Spindle speed is between 2½ and 130 rpm. for the smallest machine. It is 0.75 to 38 rpm. for the largest one. Work-weight capacity is 6,600 to 9,200 pounds.

The headstock is driven by a motor rating 18 to 30 hp. for operation on three-phase ac. at specified standard voltage. The headstock assembly includes a brake to stop rotation when the motor is shut off. The carriage is equipped with synchronous-motor feed tied in with operation of the spindle to take the place of mechanical feed transmissions and to permit adjusting the carriage and pedestal to any desired position on the base. Detail illustrated information and specifications are contained in a 4-page bulletin NR. 594, "The Heyligenstaedt Facing Lathes."

BREVITY—Identify by IEN - 3298 If you write the maker

COMBINATION DUAL DRUM TUMBLER AND ROLLER



A heavy duty machine for effectively mixing the contents of loaded steel drums, wood and steel barrels, and fibre containers, by a combined rolling and tumbling action.

THE VOL-U-METER COMPANY
BUFFALO 16, N. Y.

BREVITY—Identify by IEN - 3299 If you write the maker

Volume-manufactured in two styles—the socket type and the Crowfoot type, TAC Open End Ratchet Wrenches are scoring phenomenal time and labor savings throughout all Industry.

It is a matter of record that heretofore no tool was made that could — *in a limit of 7° ratcheting arc* — successfully tighten or back off nuts or fittings on tubing or other standing center assemblies. The speed with which TAC can complete difficult wrenching jobs, in anybody's hands, is amazing.

Our plants are currently producing at capacity for all the Armed Forces and for Defense industries.

For Phenomenal Speed in These Wrenching Jobs
ELECTRICAL CONDUIT
HYDRAULIC LINES
LUBRICATION LINES
ENGINE FUEL LINES
PNEUMATIC LINES
REFRIGERATION
AIRCRAFT
RAILROAD EQUIPMENT
RIGGING EQUIPMENT
REFINERY EQUIPMENT
CHEMICAL LINES
AUTOMOTIVE EQUIPMENT
WATER AND GAS LINES
. . . AND DOZENS OF OTHERS

© 1952—TAC

TAC
TUBING APPLIANCE COMPANY
10321 ANZA AVENUE
Los Angeles, California

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN-3301 if you write the maker

FEDERAL HORNS *save* **precious time too!**

Warnings, alarms, routine plant signals . . . Federal vibratory horns perform them all superlatively . . . and give you the added advantage of following short, quick code impulses which enable you to page your executives and foremen above heavy industrial noises . . . eliminates "searching parties" . . . outperforms gong signals.

Write for Federal's Industrial Signals Catalog now. There you'll find a complete line of heavy-duty, precision-built horns, one of which will be ideal for your application.

FEDERAL ENTERPRISES, Inc.
Formerly Federal Electric Company, Inc.
8745 South State Street Chicago 19, Illinois

BREVITY—Identify by IEN-3302 if you write the maker

Depend on **AUTO-LITE**
FOR TEMPERATURE INDICATION

Auto-Lite Indicating Thermometers are available in many types and sizes, with a choice of temperature ranges and mountings to meet your needs. Send for catalog.

THE ELECTRIC AUTO-LITE COMPANY
INSTRUMENT AND GAUGE DIVISION • TOLEDO 1, OHIO
NEW YORK CHICAGO SARNIA, ONTARIO

AUTO-LITE
INDICATING & RECORDING THERMOMETERS

BREVITY—Identify by IEN-3303 if you write the maker

Are You Making Full Use of RUBBER PRODUCTS Like These?

Then Find Out About Our Specialty—
VOLUME PRODUCTION OF . . .
Rubber Convoluted Boots, Accordion-type Seals, Boots and Sleeves for Machinery, Bellows, Tubing, Covers, Sacs, Grommets, Caps and Bulbs!

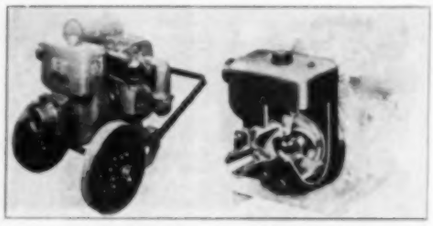
Write Today
for FREE Brochure
which will show you how others have solved design and production problems with Dipped Rubber Parts—Complete with Pictures and Prints!

Midwest Rubber
COMPANY
17222 Conant Road, Detroit 12, Michigan

BREVITY—Identify by IEN-3304 if you write the maker

PUMP . . Self-priming centrifugal for portable use, to 4,000 gpm.

Source: MARLOW PUMPS
Box 566-A, Ridgewood, N. J.



Available from stock

Simple construction, excellent air-handling ability for fast start, clearances to permit handling trash and a check valve in the inlet passage characterize this new Contractors' pump. Assembly includes the check, a diffuser, an impeller, a shaft seal and the prime tank, all arranged for quick dismantling and re-assembly in field application.

BREVITY—Identify by IEN-3305 if you write the maker

LUBRICATING . . Cutting fluids for use in tough machining operations

Source: MAGNUS CHEMICAL CO.
252 South Ave., Garwood, N. J.

Free trial offer in Bulletin 130

Cutting compounds No. 6 and 7 and soluble oils DO-4A and DO-1A are new coolants developed for use in difficult machining operations. Compound No. 7 is a blend of mineral oil and high-concentration of a cutting-oil base containing an active sulphur compound. It is dark brown in color, has a body about the same as SAE-30 oil. It can be applied by brush or by circulating pump. It is suited particularly for use in machining stainless and high-carbon steels. Compound 6 differs from 7 in its ability to operate without staining brass and bronze.

Soluble Oil DO-4A contains the same type of sulphur compound as No. 7. It is for use in grinding as well as in machining operations on metals usually difficult to work. DO-1A corresponds to No. 6 under the same conditions. It will not stain copper alloys. Both oils are proof against gumming in service. They provide good corrosion protection and minimize tendence to turn rancid or cause dermatitis. Packaging is in 110 and 415-lb. containers.

BREVITY—Identify by IEN-3306 if you write the maker

STAPLING . . Spring operated tool drives heavy staples, magazine feed

Source: HELLER CO.
2133-A Superior Ave., Cleveland 14, Ohio

Note staple size

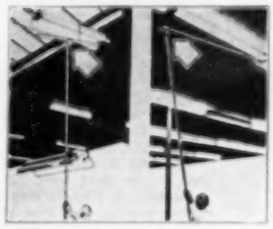
Four leg lengths range from ¼ to 7/16 in. in the new heavy-duty staple driven by the company's new stapling gun. A strip or clip of 42 staples is held in the magazine for feed, one at a time. Drive is by depressing a lever which compresses and then releases a spring in the tool head. The staple material is 0.022 by 0.066 inch. The points are spear type, angle cut outside.

Applications include fastening metal or fibre shipping tags to export boxes, assembling linings in boxes and in railroad box cars, securing car-identification tags, packing-list covers.

BREVITY—Identify by IEN-3307 if you write the maker

HANDLING . . Extension grip to remove and replace overhead lamps

Source: LAMP SNATCHERS
3011-15 N. Clark St., Chicago 14, Ill.



About $15

Handles, measuring 5 ft. in length, are designed to take additional 5-ft. extensions. They provide a required overhead reach for a spring clamp carried at the end of the outer-most length to grip a fluorescent lamp. A rubber roller in the clamp permits rotating the lamp. At the opposite end of the handle is a grip with which a lamp starter can be removed and replaced.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

BREVITY—Identify by IEN-3308 if you write the maker

production flows smoothly . . .
at top speed, at all times, yet free of rejects
Kester makes 62 different fluxes to meet any requirements. Why not write our Technical Department for full information?

KESTER SOLDERING FLUX

KESTER SOLDER COMPANY
4275 Wrightwood Ave., Chicago 39
Newark 5, N. J. • Brantford, Canada
KESTER SOLDER

BREVITY—Identify by IEN-3309 if you write the maker

SHALLOW HOLES . . . DEEP HOLES
DRILL THEM ALL FASTER, BETTER
WITH A *Commander*

DRILL CHIP BREAKER
✓ Small Chips Permit 50% — 400% Increase in Drilling Speeds
✓ Drill 10 Diameters or More in Depth Without Clearing Drill
✓ Better, Smoother, More Accurate Holes

Reciprocating action of the Commander Drill Chip Breaker breaks chips into small pieces that travel up drill flutes . . permitting higher drilling speeds . . . doubles and triples production of shallow OR deep holes. Long chips which cause drill breakage, scored holes, slow jig and fixture loading, are eliminated—small, easy to handle chips flow up out of hole continuously, permitting coolant to reach cutting edge of drill. Assures longer drill life, more holes per sharpening, more holes per hour.

ORDINARY CHIPS

CHIP BREAKER CHIPS

See us at Booth No. 1236, ASTE Show, Chicago

Write FOR CATALOG #851 which describes Commander's Production Tools

Commander MFG. CO.
4319 W. KINZIE STREET
CHICAGO 24, ILLINOIS

BREVITY—Identify by IEN-3310 if you write the maker

Dynamometer loads now measured Electronically

To eliminate cumbersome conventional methods for obtaining dynamometer readings during tests on aircraft engines, one manufacturer now uses a Baldwin SR-4 Load Cell located under a column linked to the arm of a 5000 hp. cradle-type dynamometer. Accurately, instantaneously, all changes are read at a remote location . . . the entire test completed far faster.

If you have any problems in measuring torque, batch weighing, crane weighing, continuous belt weighing, investigate these new electronic measuring devices. Compact, durable, super-accurate, completely sealed—and completely free from the inaccuracies of conventional methods—Baldwin SR-4 devices are the modern solution to most measuring problems.

BALDWIN-LIMA-HAMILTON
TESTING HEADQUARTERS
Philadelphia 42, Pa.
In Canada: Fairbank Bros., Ltd., Montreal, Quebec

BREVITY—Identify by IEN-3311 If you write the maker

EXPECT EVERYTHING IN

SERVICE

from

Safe — Non Skid

YOU'LL GET

- Study of Your Specific Floor Problem
- Cost - cutting FLINTZ 'Recommendations
- "On-the-Spot" Installation Instructions
- Periodic "Check-up" Service Calls

A FEW TERRITORIES OPEN FOR MANUFACTURERS REPRESENTATIVES.

"SERVICE" has an important double meaning with FLINTZ. *First*—it's the close personal attention you get from the Dura-Tred Engineers . . . both before and AFTER your floor is modernized with *non-skid*, low-traction FLINTZ. *Second*—it's the all-out efficiency this hard, durable, thin-section resurfacer assures you FOR YEARS TO COME. Ready-mixed, easy-to-use. Spread FLINTZ like wet sand and let the trucks roll. No delay.

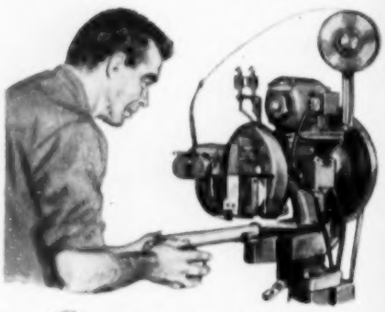
Write for descriptive literature.

dura-Tred Co.

152 N. CENTRAL PK. BLVD., CHICAGO 24, ILLINOIS

BREVITY—Identify by IEN-3312 If you write the maker

How to cut assembly costs by stitching metal and other materials together



"Waste neither time nor money, but make the best use of both."
— Ben Franklin, 1748

Assembly time and assembly costs are important to your over-all profit picture. The fastening method you use may well be the difference between black ink or red.

In many cases today you can assemble products far faster, better, and at lower cost with an Acme-Morrison Metal Stitcher than you can with expensive rivets, screws, nails, bolts or spot welds.

You can stitch steel to brass or copper or aluminum, or stitch such metals in many combinations to materials such as wood, felt, cork, canvas, leather, rubber, fibre, plastic or asbestos.

Many manufacturers have saved materials and labor costs, and improved their finished products at the same time, by turning to Metal Stitching.

To find out if you can, too, send in the coupon below for your free copy of our new 12-page booklet!

ACME STEEL COMPANY
2840 Archer Avenue, Chicago 8, Illinois
Steel Strapping—Stitching Machines and Wire — Corrugated Fasteners

ACME STEEL

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ACME STEEL COMPANY
Acme Steel Products Division, Dept. IEN-32
2840 Archer Avenue, Chicago 8, Illinois
Please send me a free copy of your new booklet, "Metal Stitching—a new technique in fastening."

NAME _____ TITLE _____
COMPANY _____
STREET ADDRESS _____
CITY _____ ZONE _____ STATE _____

BREVITY—Identify by IEN-3314 If you write the maker

MILLING . . Carbide blade cutter mounts square blade at correct angles

Source: DETROIT MILLING CUTTER CO.
28623-27 N. Grand River Ave., Farmington, Mich.

Company will regrind

Model S is new design in the company's Futurmill line of milling cutters employing solid carbide insert blades. The cutter is characterized by inclusion of rake and clearance angles in the body so these angles need not be ground on the blades.

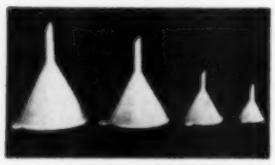
As a result the blades can be turned to present a new face four times and then reversed and turned another four before regrinding is required. The turning can be performed without removing the body from its operating position on a machine spindle. Body diameters in the line range from 3 to 16 in. in 1-in. steps. Square blade sizes are ¾, ⅞ and 1 inch.

Bulletin, "The Futur Mill", 8 pages, presents illustrated description and operating data on four cutter designs and various lathe shapes for application in cast iron, non-ferrous metals, steel cast armor plate.

BREVITY—Identify by IEN-3315 If you write the maker

HANDLING . . Polyethylene funnel suited to pour corrosive liquids

Source: AMERICAN AGILE CORP.
5804-8 Hough Ave., Cleveland 3, Ohio



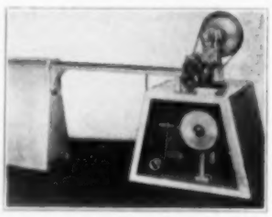
Acid won't hurt them

Sizes range from 1 to 12 in. in diameter and temperature at which these new molded-plastic funnels can be used is maximum at 170 deg. F. The material is unbreakable and highly resistant to attack by corrosive chemicals including hydrofluoric, sulfuric, nitric, hydrochloric acids. The company also offers a line of beakers, 250 and 400 ml.

BREVITY—Identify by IEN-3316 If you write the maker

MARKING . . Special machine to feed, mark, cut off strip stock

Source: KLAAS MACHINE & MFG. CO.
4315 E. 49th St., Cleveland 25, Ohio



For tags, name plates

Continuous strip or long lengths of aluminum, tin, plastic feed along a trough from the left-hand side of this new machine by means of a roll feed at the right-hand end of the trough. The feed operates intermittently and is tied in with the movements of two of the company's miniature punch presses. One press performs the marking operation.

The other press cuts off after the mark has been impressed. The machine can be set for varying lengths as well as widths and thicknesses of the material being handled. Shaped pieces can be produced after the marking is completed.

BREVITY—Identify by IEN-3317 If you write the maker

VALVE . . Pressure relief design for rigid containers and enclosures

Source: ANDREWS-ALDERFER CO.
1077-81 Home Ave., Akron 10, Ohio

Exhales as needed

Type C-13 is a new pressure-relief valve in the company's Andal line. It operates in a preset range between 7 and 10 lb. to prevent build-up of excessive pressure inside rigid containers of various types. The operating point is adjusted by turning a threaded plug in the top of the housing. Escape ports are located axially in this plug.

The body is made of brass, steel or stainless steel. The spring-backed plug carries a rubber seating disc that engages a raised circular seat in the body. Overall length is about 1¼ inches. Four designs carry ¼, ⅜, ½ and special pipe thread. Overall dimension across the hexagon flats is ¾ inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

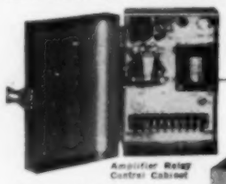
BREVITY—Identify by IEN-3318 If you write the maker

Is Production Control *Your* Problem?

solve it with

DE-TEC-TRONIC
PHOTOCELL EQUIPMENT

- Speed up production
- Increase accuracy
- Improve supervision
- Eliminate human error



Amplifier Relay Control Cabinet

Some of the most successful firms in the country have solved their production control problems with DE-TEC-TRONIC Photoelectric installations. Production has been speeded up, supervision has been improved, accuracy has been increased, human errors have been eliminated. DE-TEC-TRONIC equipment may save you thousands of dollars in your plant as it has in others by more efficient production and the elimination of waste and spoilage. The first cost is low and maintenance negligible. It can be installed by anyone.

Our new catalog gives you complete data on Amplifier Relays, light sources and photo cells with suggested applications to industry.

Write today for Catalog 106.

Light source and photo cell units installed at point of operation. Light beam maintains constant watch over production.

A Few Typical Uses

Counting . . . Predetermined cutting . . . Conveyor control . . . Die protection . . . Automatic weighing . . . Register control . . . Indexing . . . Measuring . . . Moulding control . . . Automatic packaging . . . Bottle Filling . . . Machinery safeguards . . . Selective counting.

DE-TEC-TRONIC
LABORATORIES INC.
1711 Terra Cotta Pl. • Chicago 14, Illinois

BREVITY—Identify by IEN-3319 If you write the maker

"DIX-LOCK"

Quick-Acting, Streamlined
AIR HOSE COUPLING

A modern, efficient coupling for all factory and field air lines up to ¾". Made of rustproofed steel or bronze. Light weight, yet strong and durable. Snap-lock action . . . quarter turn against spring tension; reverse quarter turn to unlock. Hose ends; male and female I. P. T. ends. Completely interchangeable.

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.
PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS
"BOSS" "G.J.-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"
PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

BREVITY—Identify by IEN-3320 If you write the maker

Simple • Accurate
GROUND RESISTANCE TESTING
with
VIBROGROUND

- Push-Button Operation
- Direct-Reading
- Completely Self-Contained
- True readings, regardless of earth resistance and condition, stray frequencies, voltages or currents

YOU can be sure of safe, effective grounding of all types of electrical systems when you test with the light, easy-to-use Vibroground. Simple operation and built-in accuracy virtually eliminate reading errors. No leveling, cranking or outside power source is necessary; and direct readings are independent of auxiliary probe resistance.

Full data on Vibrogrounds, including testing techniques and illustrations, is yours for the asking.

Write for
BULLETIN 105

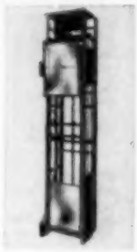
ASSOCIATED RESEARCH, *Incorporated*

3762 West Belmont Avenue • Chicago 18, Illinois

▼ BREVITY—Identify by IEN-3321 if you write the maker ▼

SAVE TIME... SPACE ELEVATOR CAPACITY with

MATOT "DUMB WAITERS"



Space, time, labor and related savings are practically unlimited with MATOT "Not-so-dumb" dumb waiters—in factories, stores, institutions, hotels, restaurants—and also *in the home*. A MATOT dumb waiter takes up little room, requires comparatively light construction and can be hand or power operated—at minimums of both effort and current. See comprehensive SWEET'S CATALOG FILE, or write for free data.

D. A. MATOT, Inc.
1533 W. Altgeld St., Chicago 14, Ill.

▼ BREVITY—Identify by IEN-3322 if you write the maker ▼

Presto . . . it's UP!

"WE SAVED 48 MAN-HOURS on the 90 man-hour job of steam-cleaning, rewiring and painting an overhead crane at our South San Francisco plant," says Fred Reibin, Plant Engineer, Enterprise Div., General Metals Corp.

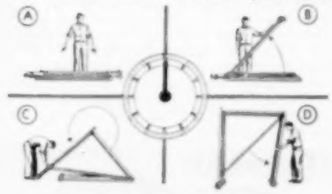
25 ft. "UP-RIGHT" SCAFFOLD-ON-WHEELS

Set up in only 5 minutes!

As if by magic, an aluminum alloy tower of any height desired is ready in minutes! Individual scaffold sections are set one on top of the other. Sections lock into place instantly. The tower rolls down aisles . . . straddles machinery.

HERE'S THE SECRET!... Patented ONE-PIECE SECTIONS

Each one-piece section is unfolded by one man in less than a minute! No tools, wing nuts or bolts.



WRITE FOR DESCRIPTIVE BULLETIN

"UP-RIGHT" SCAFFOLDS
DEPARTMENT 142 • 1013 PARDEE STREET • BERKELEY, CALIFORNIA
Factories: Berkeley, Calif. and Teterboro, N. J.
Offices in all principal cities

▼ BREVITY—Identify by IEN-3324 if you write the maker ▼

PUMP . . Pneumatic diaphragm unit develops hydraulic pressure for test

Source: SPRAGUE ENGINEERING & SALES CORP.
Budlong Ave. at 135th St., Gardena, Calif.

Ready for line connection

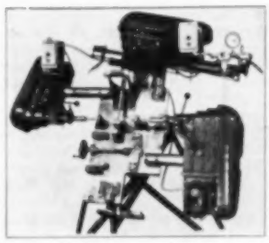
Model S-440 is a new assembly of diaphragm pump and accessory equipment to include a muffler, filter, lubricator, pressure regulator, valves and gages, all mounted on a Masonite base measuring 12 by 24 inches. Overall height is 12 inches. Weight is 45 pounds.

The pump is available in six ratios, minimum at 35 to 1, maximum at 300 to 1, for output pressure of 3,500 to 30,000 lb. on 100-lb. air input. The equipment is intended to operate with filled diaphragm chamber and lines on the output side to develop, hold and followup hydraulic test pressure.

▼ BREVITY—Identify by IEN-3325 if you write the maker ▼

DRILLING . . Special assembly of upright machine heads on a table

Source: BOICE-CRANE CO.
926 Central Ave., Toledo 6, Ohio



Made to order

Illustrated is new assembly of three of the company's upright drilling-machine heads to perform a particular job. One head is fed by air pressure. The other two are advanced and retracted by operating hand capstans. The heads are secured by stub columns to lie in horizontal position on a steel table top which carries bushings for the drills and a clamping mechanism.

▼ BREVITY—Identify by IEN-3326 if you write the maker ▼

LIGHTING . . Fluorescent fixture available for bi-pin or mono-pin lamps

Source: GIBSON MFG. CO.
1917-21 Piedmont Circle N. E., Atlanta 5, Ga.

Will not corrode

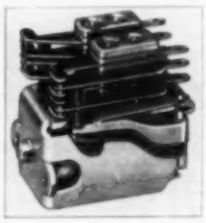
Three lengths between 4 and 8 ft., for both bi-pin and mono-pin fluorescent lamps, are available in a new design in which parabolic steel reflectors are corrosion proofed and coated with baked enamel. End panels cover the edges of the wireway channel and are provided with ¾ and 1-in. conduit knock-outs. The end panels can be detached and channel couplers employed to make a continuous run. Parabolite is the trade name.

A companion line, known as Nadalite, provides smaller units with narrower lamp spacings. There is also a Special series for four lamps and a Scotty series with shallow channel design to take narrow cross-section ballasts.

▼ BREVITY—Identify by IEN-3327 if you write the maker ▼

RELAY . . Multiple contact unit takes maximum of 20 contact springs

Source: C. P. CLARE & CO.
4717-21 W. Sunnyside Ave., Chicago 30, Ill.



Data in Bulletin 109

Low power in the operating coil characterizes this new Type-N relay. It will operate on 50 milliwatts with a 10,000-ohm coil in single-pole double-throw assembly. Input at 0.7 watt is sufficient for operation in 4-pole double-throw design with a 450-ohm coil. Operating voltage can be specified to a maximum of 180 volts. The assembly takes a maximum of 10 springs in each pileup or a total of 20 for double-arm construction.

Overall dimensions are about 1⅝ by 1⅛ by a little over 1 in. when employing two contact springs in either pileup. Relays with not more than 14 terminals, including both the coil and contact springs, can be hermetically sealed in a steel enclosure under the designation Type-SN.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

▼ BREVITY—Identify by IEN-3328 if you write the maker ▼

AMAZING SPRAY GUN PRESSURIZED BY CO_2!

NO HOSES • NO COMPRESSOR • NO ELECTRICAL OUTLETS • NOTHING EXTRA TO BUY!

BECKER PRESSURE-TYPE **SPRAY GUN**

USED EXTENSIVELY IN FACTORIES, HOMES, FARMS, INSTITUTIONS

For:
- Paints
- Oils
- Varnishes
- Enamels
- Fire-Proofing
- Decorating

Handy for hundreds of industrial uses where expensive, heavy, cumbersome compressor type spraying is unnecessary. Becker Spray Gun is ruggedly built; heavy gauge (21 liquid oz.) steel container, cast aluminum head, brass and stainless inserts. Powerful CO_2 cartridges spray up to one container-full. See your Distributor or order direct, postpaid. Extra CO_2 cartridges at your dealer's or 10 for $1 postpaid.

SULLIVAN-BECKER CO., Dept. 192-C, Kenosha, Wis.

▼ BREVITY—Identify by IEN-3329 if you write the maker ▼

Lubricates air cylinders, valves and tools ...adds years to their life

Air Line Lubricator Schrader No. 3048A

You will get better service and longer life out of your air control equipment if they are lubricated regularly. And there is no better way to do this than with the automatic Schrader lubricator.

Operating on the venturi principle, small drops of oil are picked up and continuously mix with the air to lubricate the equipment. Connected right in the air line . . . no moving parts. Transparent plastic bowl shows oil level at all times.

Write for details on the Schrader lubricator as well as other Schrader air line accessories that will help you get the most out of your air line equipment.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
458 Vanderbilt Ave., Dept. D-33, Brooklyn 17, N. Y.

▼ BREVITY—Identify by IEN-3330 if you write the maker ▼

Plenty of Places...

Where this 3-in-1 Workhorse Will Save Time and Work

LIFTABLE SERVICE

Table Top 26" x 43"

IT'S A WORK BENCH
A work bench on wheels, with a steel top that moves up and down—that's the Service "Liftable".

IT'S A TRUCK
Perfect for moving heavy dies, assemblies from one spot to another . . . saves lifting and carrying.

IT'S A LIFTER
Transfers heavy units from one table height to another—merely by cranking the top up or down to any height from 28" to 42".

To move heavy pieces, dies, assemblies vertically from one level to another—and then horizontally from one place to another—use the Service LIFTABLE. Lowered, the top is 28" from floor . . . raised, it's 42". Capacity 2000 lbs. . . . chain and screw lifting mechanism . . . all welded construction . . . locks positively at any height . . . readily portable. Cut handling costs—put LIFTABLES in your plant.

Get Descriptive Circular—Write Today.

SERVICE CASTER & TRUCK CORP.

Executive Offices: Albion, Michigan
Plants at Albion, Michigan and Somerville 43, Mass.
See your classified Telephone Directory for name of nearest Service Distributor

BREVITY—Identify by IEN - 3331 if you write the maker

NEW ZENITH MAGNETIC SOLENOID CONTACTORS

- SOLENOID OPERATED
- FINE SILVER CONTACTS
- SIMPLIFIED WIRING

This ZENITH Contactor is built to withstand the severe service demanded by loads based on Type-C lamps.

It is designed on the straight-line principle, with the solenoid being connected directly to the contact bar.

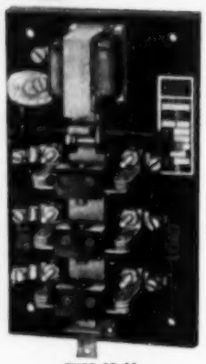
The advantage of this method of construction is its easy access to any part for quick inspection or service, without disturbing other parts.

Models: Size 1 - 25 amps. Size 1 - 50 amps.

Either size can be supplied in any number of poles.

SEND FOR FREE CATALOG

This big, illustrated catalog contains all the newest items in automatic control equipment made by Zenith. Write now for your copy!



TYPE SC 33

ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

BREVITY—Identify by IEN - 3332 if you write the maker

Don't Walk...

TALK!

The NEW Executone Intercom saves steps, increases output, cuts costs!

Compute the cost of time wasted by executives and employees running back and forth. *That's how much* the NEW Executone Intercom can save you! Your voice—with lightning speed—gets information, gives instructions. Every working hour becomes more productive for you and your employees. "Inside calls" no longer tie up telephone lines. Office and plant operate at a new peak of efficiency!

Years ahead of its time in operation and design!

Executone's exclusive "CHIME-MATIC"® Signalling announces calls by chime and signal light. Calls may be answered from across the room—yet privacy is assured. New switching circuits for every need make new savings possible. Voices are clearer, distinct, instantly recognizable. Inexpensive 2 station system easily expanded. It will pay you to get the whole story. Just mail the coupon.

Executone

COMMUNICATION & SOUND SYSTEMS

GET THE FACTS

EXECUTONE, INC., Dept. C-5
415 Lexington Ave., N. Y. 17, N. Y.

Without obligation, please let me have:

☐ The name of your local Distributor.
☐ Complete descriptive literature.

Name_____ Title_____
Firm_____
Address_____ City_____

"I WISH I HAD-"

An IEN reader is waiting for an answer to each item in this column.

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

ANTI-FREEZE . . "I wish we had a material as effective as calcium chloride, but non-corrosive, to apply on bituminous coal in railroad cars. We are in Pennsylvania." **IEN W-19**

CONTRACT WORK . . "I wish we had contact with manufacturers for whom we can design, assemble and deliver electronic equipment to build into new products, to take over your own electronic department activities or produce equipment for use in your plant. We are located in the New York metropolitan district." **IEN W-20**

DRAFTING . . "I wish I had contact with manufacturers or engineering firms who would like to have ink tracings made of their drawings by an individual particularly adept in doing this sort of work. I count it my avocation. I am located in Longview, Texas." **IEN W-21**

NEW PRODUCTS . . "I wish we had contact with a manufacturer who maintains a screw machine department and is interested in expanding its operations by the purchase of a going patented locknut business. It includes trade names, equipment, stock and $60,000 of current orders." **IEN W-22**

NEW PRODUCT . . "I wish I had the name of a manufacturer who would make and market my patented concave mirror which is useful for removing foreign bodies from one's own eyes. The concave mirror magnifies and thus provides an enlarged image of one eye as viewed by itself." **IEN W-23**

NEW PRODUCT . . "I wish I had a manufacturer to take over production and sales of my line of hydraulic pumps, motors, power units, controls and valves on which I hold a series of patents dating from 1941 through the present time. Certain of the units in the line have been put into production already. I have designed the pump for capacity to 500 gpm. for specification applications." **IEN W-24**

NEW PRODUCT . . "I wish we had a proven sheet metal product, large or small, to produce in our completely equipped sheet metal fabrication and manufacturing plant in San Francisco. Our present products range from small stampings to large special fabrications which we sell wholesale throughout the West." **IEN W-25**

STRUCTURALS . . "I wish I had a source of supply for four pieces of 4-in. car channel measuring 14 ft. in length and 13.8 lb. per foot. We need them in Indianapolis." **IEN W-26**

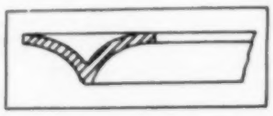
SURPLUS . . "I wish we had a buyer for 700 lb. of tin-coated steel strip, 7/32 in. in width by 0.014 in. in thickness. It is packaged in 26 coils, each measuring 24 in. in outside diameter with a 12 in. center hole. The stock is in excellent condition in Paducah, Ky." **IEN W-27**

SURPLUS . . "I wish we had a buyer for 700 24-volt 90-amp. Square D circuit breakers. They are in stock in Wichita, Kansas. Details on request." **IEN W-28**

SURPLUS . . "I wish we had a buyer for eight 10 ft. sections of roller gravity conveyor. The rolls measure 26 in. in width and are on 4 in. centers on grease sealed bearings. Loads such as barrels and drums can be handled. The sections are in stock in Salem, Mass." **IEN W-29**

SURPLUS . . "I wish we had a buyer for a Bruning Model No. 2 printer and developer Serial 10161 and for an Ozalid Streamliner. Both are in New York City." **IEN W-30**

VALVE DESIGNER . . "I wish we had contact with a senior valve designer for employment in our Pasadena plant. He should have had five years or more of experience in development of pneumatic, hydraulic and fuel oil equipment and be interested in permanent employment with a small expanding company." **IEN W-31**



VALVE . . "I wish we had contact with the manufacturer of a ring plate valve for an air compressor similar to that in the sketch." **IEN W-32**

OFFICE MANAGER . . "I wish we had contact with a man who may be retired or semi-retired and who has thorough knowledge of the German language to develop bids, make quotations, translate, invoice and handle general office operations in connection with machine tool sales. We are located in New York." **IEN W-33**

BREVITY—Identify by IEN - 3334 if you write the maker

the Switch that Has What It Takes-

for SMALL MOTORS 1 h.p. or less

SHAWMUT TYPE B MOTOR OVERLOAD SWITCH

(Rating: 1 h.p. max. @ 115v or 230v.
Non-inductive loads 15A-130v or 10A-230v)

SHAWMUT TYPE B has an *exclusive*, easy-operating, unique, trip-free mechanism. The thousands of SHAWMUT TYPE B's now in use prove that it "has what it takes!"

THREE TYPE B TYPES

1. Single Pole, solid neutral — for 2-wire, single conductor grounded circuits.
2. Single Pole — for 2-wire, single phase, one conductor, grounded circuits.
3. Double Pole — for 2-wire, single phase systems with conductors ungrounded, or 3-wire, one phase, grounded-neutral.

Heavy steel enclosure boxes. Easy to install, simple to maintain. Box or open mounting.

POSITIVE OVERLOAD PROTECTION

Silver molybdenum contacts. Interchangeable heaters. 24 different Ampere ratings legibly stamped for identification. Calibrated for each rating and die-cut for uniformity. Quality construction throughout.

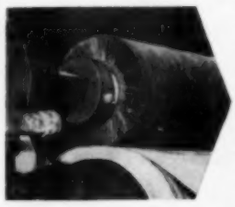
SEND FOR BULLETIN #512 AT ONCE

THE CHASE-SHAWMUT CO.
380 MERRIMAC STREET • NEWBURYPORT, MASSACHUSETTS

BREVITY—Identify by IEN - 3335 if you write the maker

How Pittsburgh Brushes SPEED PRODUCTION

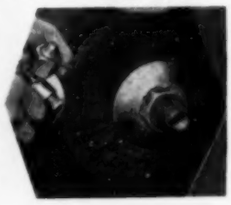
1. Removing oil film from steel!



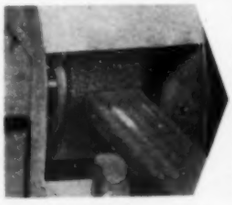
Crown Cork & Seal Co., Inc., asked Pittsburgh engineers to recommend a brush suitable for washing oil film from steel before annealing. A "built-up" brush made of Tampico sections was installed. Oil and foreign matter were completely removed without harming the surface of the steel. Production showed an immediate increase, and time saved due to fewer brush replacements added to the overall savings.

2. Satin-finishing brass fixtures!

Frequent breakdowns and brush changes hampered Bastian-Blessing Company's production of satin-finish parts for its products. Pittsburgh engineers recommended a crimped steel, standard 10" brush. Reports after three years' use show Pittsburgh Brushes have increased production, improved quality and saved materials . . . while lasting *three times longer* than previous brushes!



3. Removing burrs from steel!



Problem: The National Electric Company needed a brush to eliminate burrs and scale, yet the brush had to combine cleaning ability with long life. Solution: Pittsburgh designed a brush to specifications—a brush that was stiff and tough enough to penetrate, clean, and remove burrs and scale, and rugged enough to stand up. Result: An increase in efficiency; a jump in production!

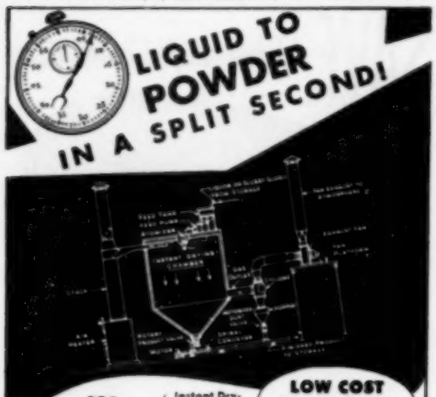
Let Pittsburgh Engineers Solve Your Brush Problems. Pittsburgh's complete line of brushes of every type, for every purpose, will provide a practical and economical solution of any brush problem you might have. Drop us a line on your company letterhead for a copy of our new booklet that shows, through actual case histories, how Pittsburgh brushes help cut your operating costs. Address: PITTSBURGH PLATE GLASS COMPANY, *Brush Div.*, Dept. M-5, 3221 Frederick Ave., Baltimore 29, Md.

PITTSBURGH Power Driven BRUSHES

BRUSHES • PAINTS • GLASS • CHEMICALS • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

BREVITY—Identify by IEN - 3337 If you write the maker



LIQUID TO POWDER IN A SPLIT SECOND!

FOR
CHEMICALS
FOOD PRODUCTS
SOAP POWDERS
CLAYS & CLAY SLIPS
PLASTICS
BY-PRODUCTS
WASTES

LOW COST PRODUCTION DRYING

Instant Drying System Units are operating commercially on the drying of these materials. A large manufacturer of wall tile says their Instant Drying equipment "has produced . . . greater quantity . . . better quality . . . an economy of labor and an ultimate over-all cost reduction for the finished product."

Write us about your drying problem. Arrange with us for test runs on your material at our Poughkeepsie plant.

INSTANT DRYING CORPORATION
104 East 41st Street, New York 17, N. Y.
Testing & Research Laboratories at Poughkeepsie, N. Y.
Engineering by CLARK, MacMULLEN & BILLY, INC., N.Y.

BREVITY—Identify by IEN - 3338 If you write the maker

MERCOID

AUTOMATIC CONTROLS FOR INDUSTRIAL APPLICATIONS REQUIRING POSITIVE CONTROL OF PRESSURE, TEMPERATURE, LIQUID LEVEL ETC.

NOTE THE FEATURES

MERCURY SWITCH
Hermetically sealed mercury switch is used. They cannot be affected by dust, dirt or corrosion nor are they subject to open arcing, oxidation, pitting or sticking of contacts, all common causes of contact trouble. This switch will give better control service and longer control life.

BOURDON TUBE
(Hidden back of cover)
The Bourdon tube is the actuating element of the control. It is the oldest known, tried and proven element, having been used in gauges for many years.

OUTSIDE ADJUSTMENT
The outside double adjustment with the calibrated dial and pointers is a convenient feature, making it very easy to set the required operating range, plainly visible on the dial. All guesswork is eliminated.

GLASS FACE
The glass face on the cover permits seeing the entire operation of the control in plain view. One can always tell whether the switch control is open or closed, a great convenience whenever servicing becomes necessary.

WRITE FOR CATALOG 730 - FILE 8 MENTION THIS PUBLICATION
THE MERCOID CORPORATION
4201 BELMONT AVE. CHICAGO 41, ILL.

BREVITY—Identify by IEN - 3339 If you write the maker

Hundreds of firms like yours

CANDY, CERAMICS, CHEMICALS, CORRUGATORS, GRAIN DRYING, JAMS, JELLIES, KILNS, LAUNDRIES, LINOLEUM, MEATS, MILK, OILS, PAPER, PLASTICS, PLYWOOD, ROOFING, RUBBER, SPACE HEATING, TOBACCO, VEGETABLES, WALLBOARD

increase production·save fuel

CANDY: Cooks batches faster
MEAT: Shortened processing time
PRESERVES: Controlled steam
CANNER: 20% fuel saving
CHEMICALS: Speed increased 44%
PAPER: Faster operating speeds
MILK: 16% less fuel cost
RUBBER: 20% fuel saving
LAUNDRY: Speed increased 12%
MEAT: More steam—less fuel

improve quality · save labor
with
COCHRANE
CB
SYSTEM
of Condensate Drainage Control

Why not you?
write for 24-page fully illustrated bulletin
COCHRANE CORP., 3152 N. 17th St., Philadelphia 32, Pa.

PRODUCT INDEX

How to find what you need:

Leaf through the issue with your current needs in mind, noting down those subjects that sound like solutions to your problems as you read the subject headings.

Next use this index to pick up page number references to additional sources on the subjects you have chosen. An asterisk (*) in the index after a number means editorial material.

Now take one subject at a time and refer to the pages you have noted. This time read the editorial descriptions and advertisements in detail. Then write the IEN numbers on which you want further information on your Reader Service Form to send to us, or write the manufacturer direct.

If you have trouble in finding the answer to your current problem through the subjects in this issue, let us know.

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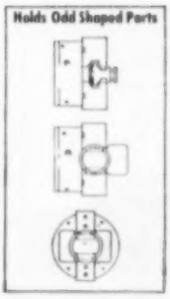

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before

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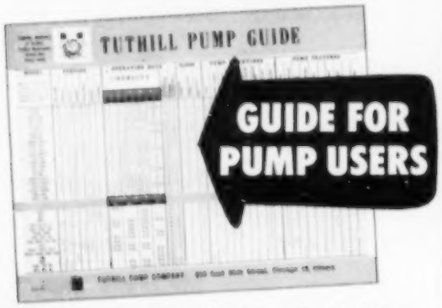

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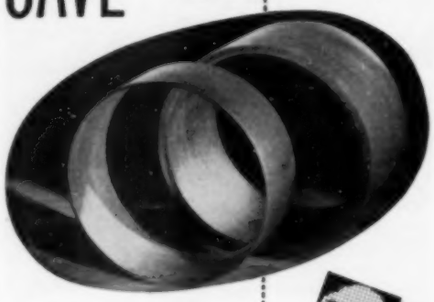

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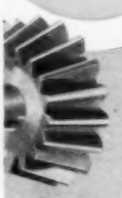

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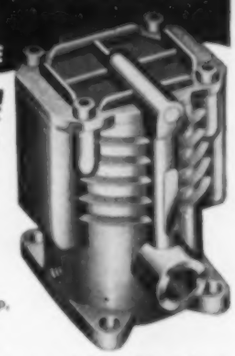

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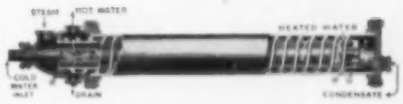

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with a ½ inch topping of

STONHARD RESURFACER

No Chopping Necessary!

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City _____ Zone ____ State _____

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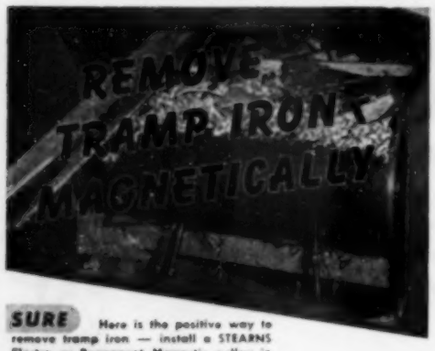

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AUTOMATIC Placed just ahead of the sawmill fuel hogs at the Weyerhaeuser Timber Co., this STEARNS magnetic pulley removes tramp iron continuously and automatically, day in and day out.

PROTECTION Reduce down-time and lower repair costs to crushing and grinding equipment in your plant with a STEARNS magnetic pulley. Write today for literature.

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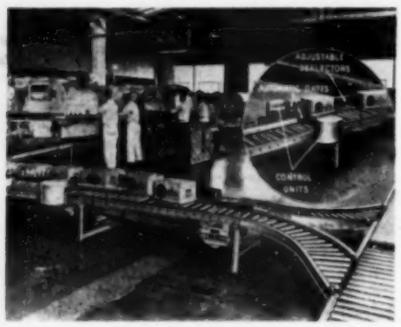
ALVEY-FERGUSON MergA-Flow

Automatically merges 2 conveyor lines into 1



The flow of cartons, cases and packages on two conveyor lines can now be automatically merged into a **single** line and directed optionally to either right or left by means of an electrically interlocked dual-gate system developed by The Alvey-Ferguson Co. and appropriately named MergA-Flow.

The A-F MergA-Flow eliminates traffic jams, maintains even flow, may be added to present belt or roller conveyor systems. For information on this and other modern handling methods write

THE ALVEY-FERGUSON CO.

340 Disney Street Cincinnati 9, Ohio

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(Please turn to page 120 for "I Wish I Had")

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Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

It's sensitive

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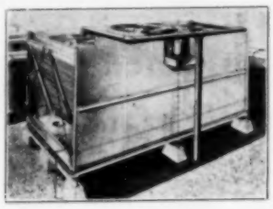
Dimensions are about 3 by 1¼ inches. Weight is 0.2 pound. Operation can be maintained in extremes of temperatures, pressure, humidity. There are no moving parts.

BREVITY—Identify by IEN-3362 If you write the maker

REFRIGERATING . . Cooling tower removes heat from circulating water

Source: MARLEY CO.
220-24 W. Gregory Blvd., Kansas City 5, Mo.



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An assembly rating 150 ton of refrigerating capacity measures 7½ ft. in height in the company's new Double-Flow Aquatower. It is designed to mount in an open space as on a building roof. It is designed to supply intermediate capacities of cold water for air conditioning, refrigeration.

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All Makers of These And All Other Products Are Listed in THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

NEEDED FOR STEEL: 3,000,000 TON OF SCRAP PER MONTH

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